



Arlington Conservation Commission

Date: Thursday, September 17, 2020

Time: 7:30 PM

Location: Conducted by Remote Participation

Agenda

1. Administrative

- a. In accordance with the Governor's Order Suspending Certain Provisions of the Open Meeting Law, G. L. c. 30A, § 20 relating to the COVID-19 emergency, the September 17, 2020 public meeting of the Arlington Conservation Commission shall be physically closed to the public to avoid group congregation. The meeting shall instead be held virtually using Zoom.

Topic: Conservation Commission Meeting

Time: September 17, 2020 07:30 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://town-arlington-ma-us.zoom.us/j/93779159145>

Meeting ID: 937 7915 9145

Password: 690515

Call-in: + 1 301 715 8592

+ 1 312 626 6799

Meeting number: 937 7915 9145#

Members of the public are strongly encouraged to send written comment regarding any of the hearings listed below to Conservation Agent Emily Sullivan at esullivan@town.arlington.ma.us.

Please read Governor Baker's Executive Order Suspending Certain Provision of Open Meeting Law for more information regarding virtual public hearings and meetings: <https://www.mass.gov/doc/open-meeting-law-order-march-12-2020/download>

- b. Review draft 08/20/2020 minutes.
- c. Review draft 09/03/2020 minutes.
- d. Review reimbursement request for Mt. Gilboa Scout Project for \$169.19.
- e. **Project Updates**
Reservoir Master Plan Phase II
Thorndike Place

2. Discussion

- a. Regulations Update: Section 33 Stormwater Management

3. Hearings

Request for Determination of Applicability

Request for Determination of Applicability: 1165R Massachusetts Avenue

This RDA requests that the Commission review the jurisdiction of various resource areas within the boundaries of 1165R Mass Ave. The following three reviews are requested:

- 1) Review the Riverfront area to determine if the property contains a Historic Mill Complex as defined under the Massachusetts Wetlands Protection Act (WPA) Regulations 310 CMR 10.04.
- 2) Review the Historic Mill Complex exemption request under the Riverfront regulations in accordance with 310 CMR 10.58(6)(k).
- 3) Review the existing drainage ditch, known locally as Ryder Brook, and determine if it meets the definition of “stream” according to 310 CMR 10.04.

Request for Certificate of Compliance

Request for Certificate of Compliance: 12 Clyde Terrace

MassDEP File #091-0274

The project as approved proposed to raze an existing single family home and replace it with a single-family home in the 100-ft wetlands buffer and AURA of an isolated wetland. The project was approved on 06/19/2017.

Notice of Intent

Notice of Intent: Wellington Park, 35 Grove Street

MassDEP File #unassigned

This project proposes additional amenities in Wellington Park, including more native plantings, an extended pathway, a bioretention basin, additional signage and seating, and an informal exploration area.



Town of Arlington, Massachusetts

Review draft 08/20/2020 minutes

Summary:

Review draft 08/20/2020 minutes.

ATTACHMENTS:

Type	File Name	Description
▢ Minutes	08202020_Minutes_Conservation_Commission.pdf	08202020 Draft Minutes



Arlington Conservation Commission

Date: August 20, 2020

Time: 7:30pm

Location: Conducted through Remote Participation using Zoom

Minutes

Attendance: Commission Members Susan Chapnick (Chair), Pam Heidell, Dave Kaplan, Nathaniel Stevens, Chuck Tirone (Vice Chair), and David White; Associate Commissioners Cathy Garnett and Mike Gildesgame; and Conservation Agent Emily Sullivan. Members of the public included Kristin Hodous, Brian Hodous, Larry Cohen, Brad Barber, Jeff Alberti, Michael Richard, Dave Steeves, Elena Compter, Mel Higgins, and Michael Rademacher.

Water Bodies Working Group

S. Chapnick stated she was stepping down from the Water Bodies Working Group. The Commission discussed which other Commissioner could replace S. Chapnick. D. Kaplan agreed to join the Working Group.

07/23/2020 Meeting Minutes

The Commission discussed edits to the draft 07/23/2020 minutes. N. Stevens motioned to approve the minutes as edited, D. White seconded, all were in favor, motion approved.

08/06/2020 Meeting Minutes

The Commission discussed edits to the draft 08/06/2020 minutes. N. Stevens motioned to approve the minutes as edited, D. White seconded, all were in favor, motion approved.

Request for Determination of Applicability: 22 Lawrence Lane

Documents Reviewed:

- 1) 22 Lawrence Lane RDA, submitted 08/04/2020, revised 08/19/2020

Resource Areas:

- 1) 100-ft Wetlands Buffer
- 2) Adjacent Upland Resource Area

L. Cohen presented the project proposal, which includes building a new deck and renovate an existing patio within the 100-ft Wetlands Buffer and AURA of an isolated wetland. The proposed project would reduce the amount of impervious surface by 231 square feet. The new deck would be built on helical piers with spaced decking to

maintain pervious space. The existing patio is made of concrete and flagstone, and would be replaced with pavers and compact stone base.

P. Heidell asked if the soils under the deck are pervious. L. Cohen stated that yes, the area under the proposed deck is currently lawn. P. Heidell asked whether the soils under the deck should be reviewed by an engineer to determine whether the soils are pervious. N. Stevens stated that the Commission usually considers spaced decks pervious regardless of soil type below.

C. Tirone asked for clarification on the patio renovation work.

D. Kaplan asked for clarification on what soil is proposed for under the deck. L. Cohen stated that the soil would be decompacted, so the compaction would not be worse than it currently is. P. Heidell recommended that the Town Engineer inspect the soils to ensure that they are pervious

C. Garnett asked whether wildlife will be able to travel under the skirted deck, as pests under porches are often a concern for homeowners. D. Kaplan stated that he was comfortable with the skirted deck, so long as soils aren't more compact than current condition.

S. Chapnick asked if any conditions should be conditioned to the determination. The Commission identified three conditions:

- 1) soils onsite cannot be more compacted after construction compared to existing soils
- 2) all earthwork spoils must be removed from site
- 3) the Arlington Conservation Agent must inspect the site to verify conditions prior to framing the deck

N. Stevens motioned to issue a negative determination that although the work is within jurisdiction it does not require a Notice of Intent (Negative Determination #3) and that the three aforementioned conditions must be met, C. Tirone seconded, all were in favor, motion approved.

C. Tirone stated that no erosion controls would be needed unless there is a storm drain near the staging area, which is proposed for the driveway in front of the house.

The Commission agreed to add a fourth condition to the determination. The final list of conditions included:

- 1) soils onsite cannot be more compacted after construction compared to existing soils
- 2) all earthwork spoils must be removed from site
- 3) the Arlington Conservation Agent must inspect the site to verify conditions prior to framing the deck
- 4) add erosion controls as needed if there is a storm drain near the staging area

N. Stevens motioned to amended the issued negative determination that although the work is within jurisdiction it does not require a Notice of Intent (Negative Determination

#3) and that the four aforementioned conditions must be met, C. Tirone seconded, all were in favor, motion approved.

Working Session: Department of Public Works Renovation

J. Alberti presented an overview of the project. This project proposes a new/renovated Municipal Facility to support the DPW, ISD, Facilities, and IT departments at 51 Grove Street. The proposed site includes the current 4.4-acre parcel, used by DPW / ISD, and an adjacent 1.4-acre portion of Town-owned land for a total of 5.8 acres. Sections of the site are within the 100-ft Wetlands Buffer, AURA, and 200-ft Riverfront Area of Mill Brook, as well as floodway and floodplain.

The work includes demolition of the existing ancillary salt/sand storage structures and fueling system, renovation of the four existing structures (Buildings A, B, C, and D), construction of a new 2-story 43,000 square-foot operations building, construction of a new salt storage structure, construction of a new state-of-the-art fueling system, and overall site improvements. Overall, the new facility includes numerous significant improvements to both the site and operations, including:

- improved stormwater and runoff management
- improved storage of vehicles, equipment and materials (indoor vs. outdoor)
- improved storage and handling of liquid petroleum products
- improved vehicle washing operations

J. Alberti stated that the two daylight sections of the brook within the site are within the floodplain, but not considered Riverfront Area. J. Alberti stated that since the site is contaminated, it is required to stay almost entirely impervious by MassDEP.

J. Alberti elaborated on the stormwater improvements, which include deep sump hooded catch basins, hydrodynamic separators, and underground detention. Infiltration is limited onsite because of the contamination. All roof gutters and drains will be connected to the proposed stormwater system.

J. Alberti stated that the existing landscaped area within the 100-ft buffer is 2000 square feet, and the proposed landscaped area within the 100-ft buffer is 2504 square feet. This landscape proposal also needs to be approved by MassDEP due to the contamination. The project proposed to at least maintain, if not slightly increase, the amount of landscaped area within the 200-ft Riverfront Area.

D. Kaplan commented that the DPW site is incredible constrained. D. Kaplan asked if there was any opportunity for biofiltration and to include green infrastructure into the stormwater system. J. Alberti stated that the project team could look into green infrastructure opportunities, but was concerned because the site has a higher potential for pollutant loading because it is a DPW yard. M. Rademacher stated that since the site has a MassDEP Activity Use Limitation (AUL), green infrastructure opportunities such as rain gardens are limited.

M. Gildesgame asked if the proposed salt storage area was fully enclosed and if there was the potential for runoff. J. Alberti stated that it was fully enclosed, and the floors would be sloped to the center to catch any runoff. The storage area would be large enough for the loading truck to enter the facility so all loading and off-loading would occur in an enclosed setting.

C. Garnett stated that she was underwhelmed with the landscape plan. C. Garnett stated that the landscape plan should be coordinated with the High School's recently permitted landscape plan and invasive removal efforts.

S. Chapnick asked if there are any concerns for historic fuel oil spills. J. Alberti stated there were no concerns because pre-characterization of the site was good. J. Alberti stated that the underground storage tank would be replaced under LSP supervision.

N. Stevens asked for clarification on the delineation of resource areas, specifically the definition of a river culvert and its 200 linear feet clause. N. Stevens did not know if maintenance openings were exempt from Riverfront Area.

The Commission reminded the project team that the Arlington Bylaw for Wetlands Protect requires 2:1 compensatory flood storage for any work in the floodplain.

P. Heidell stated that the AHS project team considered the open part of the culvert near DPW Riverfront Area. M. Higgins stated that the Riverfront in these areas is all entirely previously disturbed. The Commission commented that there was an opportunity for improving conditions and removing invasives. C. Tirone stated that the condition of channelization in the culvert openings are consistent with Mill Brook across town, areas which are considered Riverfront Area. C. Tirone asked if sheet flow enters the open areas of the culvert, or if the openings are curbed. M. Rademacher stated that the openings are not curbed, but the adjacent catch basins are at lower elevation than the opening edges, so sheet flow only enters openings during high intensity rain events.

C. Tirone asked if there were opportunities to daylight more areas of the brook onsite. M. Rademacher stated that since so many vehicles drive through the DPW yard, any daylighting areas are very constrained. J. Alberti stated that daylighting the brook would change the hydraulics of the brook system, which could exacerbate flooding onsite, downstream, or upstream.

C. Tirone commented that the salt storage area is close to the brook and asked if there is an opportunity to change its location. J. Alberti stated that the location could not change, and that the storage area was entirely enclosed. J. Alberti also clarified that the proposed stormwater system will maintain the existing stormwater connection points.

The Commission stated that the Arlington Bylaw for Wetlands Protection requires an alternative analysis for this project.

S. Chapnick requested an alternative analysis for the greenspace removal of part of the high school practice field that is proposed to become parking lot area. M. Rademacher stated that there is an engineered barrier below the field since it is contaminated, so the field is impervious with a drainage system.

S. Chapnick asked how this project addresses historic flooding issues at DPW, and how this project enhances climate resilience. J. Alberti stated most of the resilience enhancements are in building design and renovation, such as flood-proofing and location of utilities. The site itself is limited in how it can address flooding because it is in the floodplain, but the project proposes grading to redirect floodwaters from high risk areas.

D. Kaplan recommended designing the fuel island so that sheet flow would move around it and not through it. J. Alberti confirmed that the proposed design accomplished that.

M. Higgins asked the Commission whether this site needed a formal wetland delineation or if survey plans were sufficient. N. Stevens and C. Tirone agreed that survey plans were sufficient.

English Ivy Along Spy Pond Route 2 Path

The Commission discussed the English ivy infestation along the Spy Pond Route 2 path with B. Barber. B. Barber stated that he was interested in pursuing an herbicide application license so that he could volunteer and treat the infestation. S. Chapnick expressed concern with using herbicides near resource areas.

C. Garnett stated that herbicides are not significantly dangerous to resource areas and the environment, but more dangerous to the person apply them. C. Garnett stated that herbicides can be applied using controlled methods, like the cut and dab, and degrade quickly. S. Chapnick asked for more information and research on herbicides.

The Commission recommended that B. Barber wait to assess what needs to be treated until after the Spy Pond sand bar removal project, which includes invasive removal and restoration plantings.

C. Tirone stated that this project would be appropriate after the sand bar removal project, in 2021. B. Barber agreed. C. Tirone stated that successful invasive management ultimately is only successful when herbicides are used. S. Chapnick said permitting herbicide use is a slippery slope and that she does not know enough about herbicide alternatives. S. Chapnick also stated she was skeptical with the cut and dab method for vines.

S. Chapnick stated she was not comfortable with recommending that B. Barber pursue getting his applicator license, because she did not know if the Commission would approve herbicide use in the future. C. Garnett encouraged B. Barber to get his

applicator license. The Commission did not have consensus to direct B. Barber one way or the other regarding an applicator license.

Request for Certificate of Compliance: Spy Pond Edge Protection & Erosion Control Project

MassDEP File #091-0299

Documents Reviewed:

- 1) *Spy Pond Edge Protection & Erosion Control Project NOI*
- 2) *Spy Pond Edge Protection & Erosion Control Project OOC*
- 3) *Spy Pond Edge Protection & Erosion Control Request for Certificate of Compliance*
- 4) *COC Internal Checklist*

Resource Areas:

- 1) *100-ft Wetlands Buffer*
- 2) *Adjacent Upland Resource Area*

The project as approved proposed shoreline stabilization and ecological restoration activities on the Town-owned properties located at Spy Pond Park, Scannell Field, and area west of the Boys and Girls Club in the 100-ft wetlands buffer and AURA of Spy Pond. The project was approved on 09/05/2018.

E. Sullivan presented the COC internal checklist to the Commission and recommended that the Commission issue the COC with continuing conditions 38, 39, and 40.

The Commission discussed how this project did not include the vegetation monitoring and management initially written into the project. The Commission discussed opportunities to better incorporate monitoring and management into future projects. The Commission agreed that the Town does not provide adequate resources to public lands maintenance and that the pandemic highlights how important public lands are and how important proper maintenance of public lands is.

P. Heidell motioned to issue a complete Certificate of Compliance with continuing conditions 38, 39, and 40, D. Kaplan seconded, all were in favor, motion approved.

Regulatory Update: Stormwater Management Section

The Commission reviewed and discussed Section 33: Stormwater Management for the Arlington Regulations for Wetlands Protection. The Commission also reviewed the proposed updates for the Stormwater Mitigation Bylaw, proposed by the Engineering Division, so that the two updates can be consistent. Discussion of this regulatory update will continue to the Commission's 09/03/2020 meeting.

D. White motioned to close the Commission meeting, N. Stevens seconded, all were in favor, motioned approved.

Meeting adjourned at 10:30pm.



Town of Arlington, Massachusetts

Review draft 09/03/2020 minutes

Summary:

Review draft 09/03/2020 minutes.

ATTACHMENTS:

Type	File Name	Description
▢ Minutes	09032020_Minutes_Conservation_Commission.pdf	09032020



Arlington Conservation Commission

Date: September 03, 2020

Time: 7:30pm

Location: Conducted through Remote Participation using Zoom

Minutes

Attendance: Commission Members Susan Chapnick (Chair), Pam Heidell, Nathaniel Stevens, Chuck Tirone (Vice Chair), and David White; Associate Commissioners Cathy Garnett and Mike Gildesgame; and Conservation Agent Emily Sullivan. Members of the public included Beth Melofchik, Mary O'Connor, Jonathan Nyberg, Doug Kilgour, Dan Wells, Ann LeRoyer, John Shea, Patricia Worden, Julia Kew, Brendan Horigan, Grace Dingee, B Mirak, Robin Bergman, Sheila Berry, Ellen Cohen, Daniel St. Clair, Mariah Contreras, and JoAnn Robinson. Commissioner Member Dave Kaplan was absent.

Conservation Commission Candidates

The Commission spoke with two candidates interested in the open Commission position, Doug Kilgour and Mike Gildesgame.

D. Kilgour introduced himself and reviewed his background, which includes a BS in civil and environmental engineering, an MS in environmental engineering with a focus on soil, and an MBA. D. Kilgour stated he has stormwater experience from his academic programs, as well as experience from working at an environmental engineering firm. D. Kilgour stated that he currently works in finance and is passionate about the environment and would like to get involved in Arlington civics.

S. Chapnick asked if D. Kilgour would be interested in an Associate Commission position. D. Kilgour stated that he would be interested in an Associate Commission position.

N. Stevens clarified the differences between an Associate Commissioner and Commissioner. The primary difference is that Commissioners can vote, but Associate Commissioners cannot. Otherwise, Associate Commissioners and Commissioners are treated equally.

M. Gildesgame introduced himself and reviewed his background. M. Gildesgame is currently an Associate Commissioner. M. Gildesgame is particularly interested in ecological integrity and water resource management, and stated that he has learned a lot about conservation regulations in his year as an Associate Commissioner.

E. Sullivan reviewed the process for filling open Commission positions. The Commission recommends candidates to the Town Manager, who then reviews the candidates and recommends Commission members to the Select Board. New Commissioners and Associate Commissioners are then presented to the Select Board, who vote on appointment, and then must be sworn in by the Town Clerk. N. Stevens stated that the Town Manager usually respects the recommendation made by the Commission on which candidates should be appointed.

P. Heidell motioned to recommend M. Gildesgame as a Commissioner and D. Kilgour as an Associate Commissioner, N. Stevens seconded, all were in favor, motion approved.

Community Preservation Act

P. Heidell reviewed her memo summarizing water body improvement projects that have been awarded CPA funds in other municipalities. P. Heidell stated that CPA preliminary applications are due 10/12/2020.

The Commission discussed potentially forming a cross-jurisdictional coalition focused on water body improvement. E. Sullivan asked if CPA has any limitations on funding multi-jurisdictional projects.

Request for Extension of Order of Conditions: 88 Coolidge Road [8:00]

MassDEP File #091-0278

Documents Reviewed:

- 1) *88 Coolidge Road Notice of Intent*
- 2) *88 Coolidge Road Order of Conditions*
- 3) *88 Coolidge Road Request for Extension of Order of Conditions*

Resource Areas:

- 1) *100-ft Wetlands Buffer*
- 2) *Adjacent Upland Resource Area*

The project as approved proposed to construct a single family home in the 100-ft wetlands buffer and AURA of an isolated wetland. The project was approved on 10/05/2017.

J. Shea stated that the Applicant was requesting an extension due to a lawsuit which delayed the construction of the approved single family home. The Applicant requested a three year extension, until 10/05/2023.

C. Tirone asked if substantial changes to the Commission regulations can impact the extension, because the Commission has updated its regulations since the OOC was issued. N. Stevens stated that regulation updates were not relevant, and that the only relevant aspect to consider for this extension request was whether the conditions were significantly outdated. S. Chapnick stated that the Commission had to review the 47 Spy Pond Lane project under the 2017 regulations that 88 Coolidge Road was reviewed under last year.

N. Stevens motioned to grant the three year extension until 10/05/2023, D. White seconded, all were in favor, motion approved.

Zoning Board of Appeals Update

S. Chapnick reviewed the comments she made at the ZBA's 08/25/2020 meeting regarding the Thorndike Place proposal. S. Chapnick stated that the ZBA voted that the application submitted by the Applicant was incomplete, and so the Applicant had 30 days to submit the additional information needed to complete the application. N. Stevens stated that the ZBA's 10/13/2020 meeting will review the wetlands and stormwater management aspects of this proposal. The Commission agreed that the Town's third-party review, BETA Group, should have a working session with the Commission prior to the ZBA's 10/13/2020 meeting, at the Commission's 10/01/2020 meeting. E. Sullivan will reach out to BETA Group to schedule the working session.

Request for Determination of Applicability: 1165R Massachusetts Avenue

Documents Reviewed:

- 1) 1165R Mass Ave RDA

Resource Areas:

- 1) Mill Brook
- 2) 100-ft Wetlands Buffer
- 3) 200-ft Riverfront Area
- 4) Floodplain

This RDA requested that the Commission review the jurisdiction of various resource areas under the Wetlands Protect Act only, within the boundaries of 1165R Mass Ave. The following three reviews are requested:

- Review the Riverfront area to determine if the property contains a Historic Mill Complex as defined under the Massachusetts Wetlands Protection Act (WPA) Regulations 310 CMR 10.04.
- Review the Historic Mill Complex exemption request under the Riverfront regulations in accordance with 310 CMR 10.58(6)(k).
- Review the existing drainage ditch, known locally as Ryder Brook, and determine if it meets the definition of "stream" according to 310 CMR 10.04.

D. Wells stated that the purpose of the RDA was to understand the full extent of jurisdiction to inform the future NOI filing under the Wetlands Protection Act.

D. Wells stated that a Historic Mill Complex is defined as a complex constructed before and existing after 1946. S. Chapnick stated that she needs more information about the land surrounding the historic mills, including parking lots and driveways.

P. Heidell stated that water course depicted in historic maps is not land and therefore the Historic Mill Complex exemption does not apply to it. C. Tirone agreed.

The Commission discussed whether certain parts of the site were present in 1946, including parking lots and road ways.

P. Heidell questioned whether buildings that existed after 1946 needed to be used for original purpose. P. Heidell asked for more information and clarification on the exemption.

C. Tirone asked the Applicant why they took the site's current boundaries and overlaid them on historic maps. C. Tirone recommended that the Applicant do the opposite, and take the historic boundaries and overlay them on current maps.

D. Wells stated that based on his research and field investigation, Ryder Brook is not a jurisdictional brook but a drainage ditch. D. Wells stated that based on his observations, all water that flows through Ryder Brook comes from catch basins. D. Wells stated that he observed primarily invasive and non-wetlands plants in and along Ryder Brook during his investigation. D. Wells stated that historic USGS maps show upstream wetlands and stream systems, but D. Wells did not observe either in his investigation. D. Wells stated that although Ryder Brook would qualify as jurisdictional under the Arlington Bylaw for Wetlands Protection, it does not qualify for jurisdiction under the Wetlands Protection Act.

S. Chapnick summarized the site visit conducted by a few Commission members on 09/02/2020 to investigate Ryder Brook.

C. Tirone asked whether Ryder Brook being upstream of a perennial stream (Mill Brook) constitutes Ryder Brook as jurisdictional. D. Wells stated that he had thought of that, but MassDEP excluded rivers as resource areas that would qualify something like Ryder Brook as jurisdictional. MassDEP would only consider Ryder Brook jurisdictional if it was upstream of a marsh or bog. C. Tirone stated that Ryder Brook benefits Mill Brook.

M. Gildesgame asked what information does the Commission need to determine jurisdiction. C. Tirone suggested that the Applicant do a more comprehensive study of the brook and the upstream area.

P. Heidell stated that under the WPA, it seems like Ryder Brook meets the definition of intermittent. S. Chapnick stated that the current drought may be impacting the condition of Ryder Brook. P. Heidell stated that the Applicant may not be able to provide more information, and that it seems like Ryder Brook is jurisdictional under the Arlington Bylaw but not jurisdictional under the WPA.

D. Wells stated that he could provide more documentation from his investigation upstream of Ryder Brook. C. Tirone stated that he will also investigate upstream of Ryder Brook.

The Commission agreed that it needed more information about the Historic Mill Complex exemption, but that it did not need any additional information about Ryder Brook.

C. Tirone motioned to continue the hearing to the Commission's 09/17/2020 meeting, D. White seconded, all were in favor, motion approved. The Commission requested that all additional materials be submitted by 09/10/2020.

Regulatory Update: Stormwater Management Section

The Commission reviewed and discussed Section 33: Stormwater Management for the Arlington Regulations for Wetlands Protection. Discussion of this regulatory update will continue to the Commission's 09/17/2020 meeting.

Administrative Document: Chair and Vice Chair Roles and Responsibilities

The Commission reviewed and discussed the draft roles and responsibilities of the Chair and Vice Chair. S. Chapnick stated that N. Stevens recommended that this document be expanded to include roles and responsibilities for all Commission members in addition to the unique responsibilities of the Chair and Vice Chair. S. Chapnick stated that this is a working document, and the Commission can revise it as needed.

D. White motioned to close the Commission meeting, C. Tirone seconded, all were in favor, motioned approved.

Meeting adjourned at 9:30pm.



Town of Arlington, Massachusetts

Reimbursement Request

Summary:

Review reimbursement request for Mt. Gilboa Scout Project for \$169.19.



Town of Arlington, Massachusetts

Project Updates

Summary:

Project Updates

Reservoir Master Plan Phase II

Thorndike Place

ATTACHMENTS:

	Type	File Name	Description
▢	Reference Material	A_Landry_Comment_Letter_09112020.pdf	A Landry Comment Letter 09112020

34 Hamilton Road #301
Arlington, MA 02474

September 11, 2020

All Addressees are Town of Arlington, Massachusetts, unless otherwise noted

Zoning Board of Appeals
Select Board
Dave Rogers, Massachusetts
House of Representatives
Douglas Heim, Town Counsel
Susan Chapnick, Conservation Commission
Nathaniel Stevens, Conservation Commission
Tree Committee
Tim Lecuivre, Tree Warden
Clarissa Rowe, Landscape Architect
and Local Activist

854 New Housing Units since 2001
the Mugar Property

I have lived in Arlington since 1990, and have enjoyed it very much. The reason for this letter is to express my concerns with regard to the number of housing units built, and to be built, in Arlington in the last 20 years. What inspired this letter was my attending the Zoom Zoning Board of Appeals (ZBA) meeting of August 2, 2020. In interest of disclosure, I rent a space in one of the properties listed in Exhibit A.

The Town of Arlington has been a desirable place to live for some time. Amongst its desirable attributes, Arlington is close to the city, but feels like a town. However, the rate of growth of residential buildings is staggeringly high. Since learning more about it, it appears a reckless growth. Especially considering there is low occupancy in one of the newer, larger buildings. If the Mugar Property and the 1165 Mass Ave. properties go forward, there will be 854 new housing units in Arlington since 2001 (See **Exhibit A**).

We are losing the reason why Arlington is a desirable place to begin with.

After attending the ZBA Meeting, and learning about the Mugar property, I join the many voices in opposition to the project. There is enough evidence to stop the project on ecological grounds alone.

Unwittingly, during a slide presentation at the ZBA meeting, one slide entitled "Study re 2014 Report" (See **Exhibit B**) seemed to get stuck on the screen. It showed an aerial view of the neighborhood in East Arlington. The tree canopy over the Mugar property is the greenest part of that image. In this age of the loss of green, open spaces and the environmental costs of that loss, why take out the greenest place in East Arlington.

Finally, although there are no exact figures on this, colleges are looking to the mid **2020s as the time when there will be a significant drop in their student population after decades of low birth rates. How much of all this building in Arlington is because we are close to colleges and universities in the Boston area?

I would like to thank many of the good voices at the ZBA meeting and especially Representative Dave Roberts who suggested opening discussions that could lead to a win/win situation for Arlington and for the Mugar family.

Sincerely,

Adrienne Landry

**<https://www.npr.org/2019/12/16/787909495/fewer-students-are-going-to-college-heres-why-that-matters>

Exhibit A

***Twenty years of building residential units in Arlington**

The following list shows the number of residential units built over the last 20 years in Arlington and includes those proposed for future building. Most were built in the last 10 years. Most are rental units.

Buildings built in last 20 years

Legacy (2001) Rental	128 units
30 Mill St. Rental (many unoccupied)	115 units
3 Mill St. Condo	19 units
248 Mass. Ave. Condo (replacing a single-family)	3 units
264 Mass Ave. Condo (replacing Arlington Texaco)	27 units
887 Mass. Ave. Rental (next to the high school)	4 units
Symmes, 4105 Symmes Circle, Rental	164 units
Symmes Circle? Condo (Symmes Circle)	* 15 units
* uncertain figure	

Future building

1165 Mass Ave. Rental	140 units
890 Mass. Ave. ?	20 units
Thorndike Place (Mugar Property) Rental	219 units
Park Ave. Extension corner Lowell St.	____?____

Total new units since 2001	854 units
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*This list shows the units I am aware of.

Exhibit B

Zoning Board of Appeals Meeting - August 25, 2020

STUDY AREA FOR 2014 REPORT

1) Route 2 at Route 16
2) Route 2 at Lake Street EB on/off ramps
3) Route 2 at Lake Street WB on/off ramps
4) Lake Street at Littlejohn Street
5) Lake Street at Birch Street
6) Massachusetts Avenue at Lake Street

MORE VIDEOS

1:23:37 / 3:07:52

MacBook Pro



Town of Arlington, Massachusetts

Regulation Update

Summary:

Regulations Update:Section 33 Stormwater Management

ATTACHMENTS:

	Type	File Name	Description
▢	Reference Material	Section_33_Stormwater_Management_Clean.pdf	Section 33: Stormwater Management

Section 33 - Stormwater Management

A. Stormwater management design for projects specified in a request for determination of applicability or an application for a permit shall accomplish the following:

1. Not exacerbate or create flooding conditions and shall not result in an increase in the peak are-rate of stormwater runoff or volume over natural and existing conditions for the 2-, 10-, and 25-year 24 -hour duration storm events.
2. Reduce stormwater pollution to the maximum extent possible. Low Impact Development techniques listed in the Massachusetts Stormwater Handbook .- (LID BMPS) should be considered-prioritized for their positive impact on overall site climate change resilience, improvements to water quality, and ability to handle water quantity. This may include but not be limited to reduction in- impervious surfaces, bio-retention (rain gardens) and infiltration systems.
3. Have an operation and maintenance plan to inspect, properly maintain, and repair installed BMPs after project completion make-to ensure they are functioning according to the design intent in perpetuity
4. Not have an adverse effect on resource area values.
5. Provide a sufficient level of environmental protection during the construction phase.

All Projects shall meet applicable standards 1 – 10 of the most current Massachusetts Department of Environmental Protection Stormwater Management Policy and applicable requirements of Arlington’s Stormwater Mitigation Bylaw (Article 15) administered by the Town of Arlington’s Engineering Division. In the case of conflict between the regulations, the more stringent provisions shall apply. Should a project require a Stormwater Permit under Article 15, the Applicant shall obtain approval of the Stormwater Management permit prior to issuance of a permit by the Conservation Commission.

BB. The rainfall amounts used for design and analysis shall be based on NOAA Atlas 14 Volume 10 Point Precipitation Frequency Estimates for Arlington. Calculations shall show existing and proposed runoff conditions for comparative purposes and include a narrative on the proposed project’s impact on climate change resilience of the resource area (see Section 31).

C
€. The requirements of this section shall be met commensurate with the nature, scope, type, and cost of the proposed project or activity.

Comment [KD1]: Is total SW volume regulated in the MA SW standards? Standard 2 references rates. I can see a situation where new development meets state standards, yet generates more total runoff... I don’t see anything about volumes in the Town bylaw either. However, [Page 4-4 of the MassDEP 2002 Hydrology Handbook for Conservation Commissioners](#) gives an example where increased volume can impact resource areas. “An increase in volume of runoff into a wetland can result in higher water levels for sustained periods, which may have adverse effects on the biological community in the wetland” Are we creating a new regulation and if so is that the intent?

Comment [KD2]: Existing conditions should include “natural” if undeveloped. Was it intentional to leave natural in?

Comment [DK3]: State stormwater standards do not apply to SFHs, but our bylaw should and does.

Comment [KD4]: To confirm, through the bylaw, we are extending state stormwater standards to smaller projects, but to the extent practicable. The intent here is to add a “waiver” similar to the town’s draft SW regulations.

However, I’m not sure we should be entertaining “waivers” for all projects. i.e. new development that can’t meet state stormwater standards shouldn’t necessarily be granted a waiver, but be compelled to down-scale the project so it can meet all standards...



Town of Arlington, Massachusetts

Request for Determination of Applicability

Summary:

Request for Determination of Applicability: 1165R Massachusetts Avenue

This RDA requests that the Commission review the jurisdiction of various resource areas within the boundaries of 1165R Mass Ave. The following three reviews are requested:

- 1) Review the Riverfront area to determine if the property contains a Historic Mill Complex as defined under the Massachusetts Wetlands Protection Act (WPA) Regulations 310 CMR 10.04.
- 2) Review the Historic Mill Complex exemption request under the Riverfront regulations in accordance with 310 CMR 10.58(6)(k).
- 3) Review the existing drainage ditch, known locally as Ryder Brook, and determine if it meets the definition of "stream" according to 310 CMR 10.04.

ATTACHMENTS:

Type	File Name	Description
Request for Determination of Applicability	1165R_Mass_Ave_40B_RDA-compressed.pdf	1165R Mass Ave RDA
Request for Determination of Applicability	1165R_Mass_Ave_Letter_re_Historic_Mill_Complex_09022020.pdf	1165R Mass Ave RDA Historic Mill Complex
Reference Material	Town_Counsel_Guidance_on_Historic_Mill_Complex.PDF	Town Counsel Guidance on Historic Mill Complexes 09032020
Request for Determination of Applicability	1165R_Mass_Ave_Supplemental_Materials_09102020.pdf	1165R Mass Ave RDA Supplemental Materials 09102020
Request for Determination of Applicability	1165R_Mass_Ave_RDA_Stream_Inspection_Letter.pdf	1165R Mass Ave RDA Ryder Brook Investigation

August 10, 2020

Arlington Conservation Commission
730 Massachusetts Ave.
Arlington, MA 02476

**Re: Request for Determination of Applicability
1165-1167 Mass Ave. & 0 Ryder Street - Arlington, MA**

1. Introduction

Goddard Consulting, LLC (Goddard), is pleased to submit this RDA on behalf of “1165R Mass Ave MA Property LLC” for the properties known as 1165-1167 Mass Ave. and 0 Ryder Street in Arlington (Parcel IDs 57-2-10.B and 57-2-15 respectively). Note that the RDA is being filed under the WPA only. Upon the filing of this RDA, we request that the Commission make the following three determinations:

- 1) Confirm that the entire Riverfront area within property contains an Historic Mill Complex as defined under the Massachusetts Wetlands Protection Act (WPA) Regulations 310 CMR 10.04.
- 2) Confirm that the “footprint of the Historic Mill Complex” is exempt from Riverfront regulations in accordance with 310 CMR 10.58(6)(k).
- 3) Confirm that the area shown as an existing drainage ditch (known locally as “Ryder Brook”) does not meet the definition of “stream” according to 310 CMR 10.04 and is therefore not a jurisdictional resource area.

Note that we have included a MassDEP Office of Appeals and Dispute Resolution (OADR) Final Decision on a relevant case involving a Historic Mill Complex determination (In the Matter of 104 Stonybrook LLC,” which should provide valuable information for the Commission during its review. Unlike the developer in this case (see p.11), we have provided clear evidence that an Historic Mill Complex clearly was in existence before 1946 and continues to exist after August 7, 1996, thus meeting the definition in 310 CMR 10.04.

A list of enclosed supporting documents is as follows:

- Request for Determination of Applicability (WPA Form 1)
- “Orthophoto View of Site,” Goddard Consulting, LLC, 5/5/20
- “USGS Site Locus,” Goddard Consulting, LLC, 5/5/20
- “Existing Conditions Plan,” Bohler Engineering, 8/7/20

- “Analysis of Mill Complex Designation,” Goddard Consulting, LLC, 8/10/20
- “Drainage Ditch Analysis,” Goddard Consulting, LLC, 8/10/20
- “In the Matter of 104 Stonybrook LLC” OADR Recommended Final Decision, OADR Docket No. WET-2017-021, May 21, 2018.

2. Existing Conditions

The subject property, located at 1165-1167 Mass Ave. and 0 Ryder Street, is currently developed with a series of old mill buildings and associated structures including paved parking areas. Wetland resource areas onsite consist of a perennial stream (Mill Brook), which flows in a northwest to southeast direction through the property in an armored channel, directly underneath some of the existing mill buildings. Riverfront resource area extends 200 feet in both directions from the mean annual high water of the Brook, as shown on the Existing Conditions plan. See the “Analysis of Historic Mill Complex Designation” report for a more detailed description.

The onsite portion of a non-jurisdictional drainage ditch (known locally as Ryder Brook) conveys stormwater through a portion of the property before it enters a culvert and ultimately connects Mill Brook. The daylighted portion of the ditch originates at a culvert discharge offsite just below the Minuteman Bikeway and flows towards the subject property. Using existing and historical imagery, USGS StreamStats and on-the-ground inspections, we determined that there are no freshwater wetlands upgradient of the discharge point from under the Minuteman Bikeway, and that the source of the water flowing through the ditch (when it is flowing) is likely entirely from catch basins. The banks of the ditch are shown on the Existing Conditions plan, as SB1-6 on the west side and SB 101-106 on the east side. See the “Drainage Ditch Analysis” for a more detailed description.

If there are any questions concerning this submission, please do not hesitate to contact me.

Sincerely,

Goddard Consulting, LLC

by 

Dan Wells, M.S.
Senior Wildlife Biologist & Wetland Scientist



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

Arlington

City/Town

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Daniel St. Clair, 1165R Mass Ave MA Property LLC

Name

Daniel.StClair@ssinvests.com

E-Mail Address

One Post Office Square, 26th Floor

Mailing Address

Boston

City/Town

MA

State

02109

Zip Code

(617) 531-4244

Phone Number

Fax Number (if applicable)

2. Representative (if any):

Goddard Consulting, LLC

Firm

Dan Wells

Contact Name

dan@goddardconsultingllc.com

E-Mail Address

291 Main Street, Suite 8

Mailing Address

Northborough

City/Town

MA

State

01532

Zip Code

(508) 393-3784

Phone Number

Fax Number (if applicable)

B. Determinations

1. I request the Arlington make the following determination(s). Check any that apply:
Conservation Commission

- ☒ a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- ☐ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- ☐ c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- ☐ d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Name of Municipality

- ☐ e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

1165-1167 Mass Ave; 0 Ryder Street

Street Address

Arlington

City/Town

57-2

Assessors Map/Plat Number

10.B and 15

Parcel/Lot Number

- b. Area Description (use additional paper, if necessary):

1) The entire onsite Riverfront Area, since it falls within the footprint of an Historic Mill Complex.

2) The area of a drainage ditch depicted by flags SB1-6 and SB 101-106.

- c. Plan and/or Map Reference(s):

Existing Conditions Plan by Bohler Engineering

Title

8/7/20

Date

Title

Date

Title

Date

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

Arlington

City/Town

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

1a) 310 CMR 10.04 Historic Mill Complex definition; 1b) 310 CMR 10.58(6)(k) exempt activities in riverfront; 2) 310 CMR 10.04 Stream definition.

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☐ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

Arlington

City/Town

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

1165R Mass Ave MA Property LLC

Name

Spaulding & Slye Investments, One Post Office Square, 26th Floor

Mailing Address

Boston

City/Town

MA

State

02109

Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant

August 17, 2020

Date

Signature of Representative (if any)

8/18/20

Date

Bylaw Filing Fees and Transmittal Form

Rules:

1. Fees are payable at the time of filing the application and are non-refundable.
2. Fees shall be calculated per schedule below.
3. Town, County, State, and Federal Projects are exempt from fees.
4. These fees are in addition to the fees paid under M.G.L. Ch. 131, s.40 (ACT).

Fee Schedule (ACC approved 1/8/15):

\$	No./Area	Category
150	1	(R1) RDA- \$150 local fee, no state fee
		(N1) Minor Project - \$200 (house addition, tennis court, swimming pool, utility work, work in/on/or affecting any body of water, wetland or floodplain).
		(N2) Single Family Dwelling - \$600
		(N3) Multiple Dwelling Structures - \$600 + \$100 per unit all or part of which lies within 100 feet of wetlands or within land subject to flooding.
		(N4) Commercial, Industrial, and Institutional Projects - \$800 + 50¢/s.f. wetland disturbed; 2¢/s.f. land subject to flooding or buffer zone disturbed.
		(N5) Subdivisions - \$600 + \$4/l.f. feet of roadway sideline within 100 ft. of wetlands or within land subject to flooding.
		(N6) Other Fees - copies, printouts; per public records law
		(N7) Minor Project Change - \$50
		(N8) Work on Docks, Piers, Revetments, Dikes, etc - \$4 per linear foot
		(N9) Resource Boundary Delineation (ANRAD) - \$1 per linear foot
		(N10) Certificate of Compliance (COC or PCOC) - No charge if before expiration of Order, \$200 if after that date.
		(N11) Amendments - \$300 or 50% of original local filing fee, whichever is less.
		(N12) Extensions -
		a. Single family dwelling or minor project - \$100.
		b. Other - \$150.
		(N13) Consultant Fee -per estimate from consultant
150	TOTAL	

Note: Submit this form along with the forms submitted for the ACT - the "Wetlands Filing Fee Calculations Worksheet," and the "Notice of Intent Fee Transmittal Form."

KRATTENMAKER OCONNOR & INGBER PC

177 STATE ST 5TH FLOOR
ONE MCKINLEY SQUARE
BOSTON MA 02109

9986

5-7515/110

DATE

8/7/2020

PAY
TO THE
ORDER OF

Town of Arlington

one hundred fifty dollars

\$150.00

DOLLARS



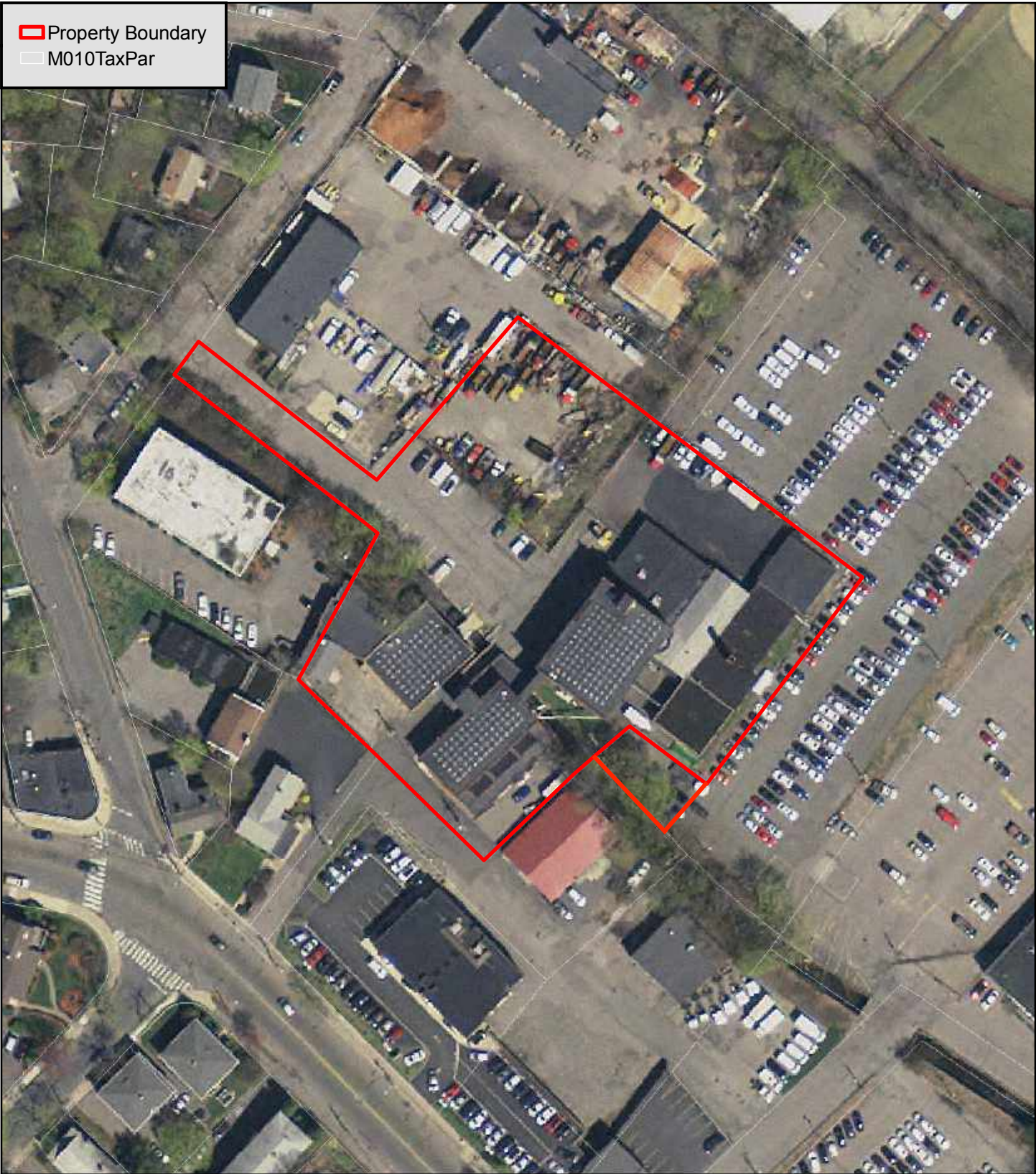
Santander Bank, N.A.

FOR



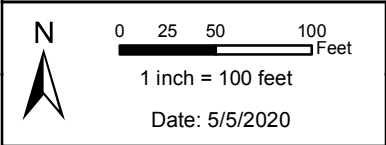
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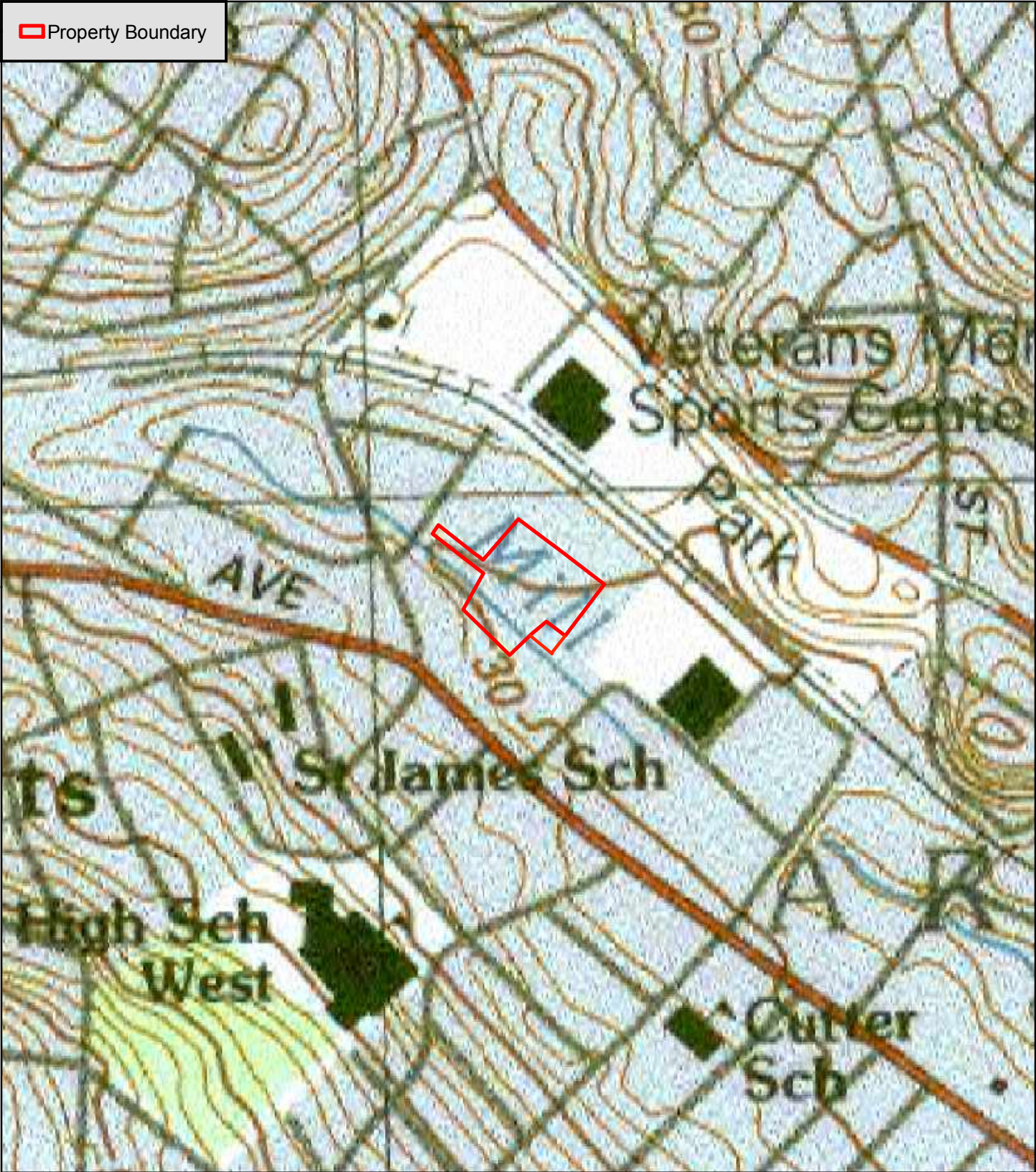


Orthophoto View of Site

1165-1167 Mass Ave. - Arlington, MA

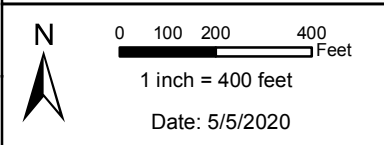


GIS Data Source: "Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Executive Office of Technology and Security Services"



USGS Site Locus

1165-1167 Mass Ave. - Arlington, MA



GIS Data Source: "Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Executive Office of Technology and Security Services"

Legal Notice Charge Authorization


DATE:

TO: legals@wickedlocal.com

I hereby authorize Community Newspapers to bill me directly for the legal notice to be published in the
Arlington Advocate newspaper on _____ for a public hearing with the Arlington
Conservation Commission to review a project at the following location:

1165-1167 Mass Ave. & 0 Ryder St.

Thank you.

Signed:  _____

Send bill to:

1165R Mass Ave MA Property LLC (Address)
c/o Spaulding & Slye Investments
One Post Office Square, 26th Floor
Boston, MA 02109 (Phone)
202-213-4487

August 10, 2020

Arlington Conservation Commission
730 Massachusetts Ave.
Arlington, MA 02476

**Re: Analysis of Historic Mill Complex Designation
1165-1167 Mass Ave. - Arlington, MA**

1. Introduction

Goddard Consulting, LLC (Goddard), is pleased to submit this report regarding the status of the above referenced property as a Historic Mill Complex under the Massachusetts Wetlands Protection Act (WPA) and Regulations 310 CMR 10.00. Areas which qualify as a Historic Mill Complex are exempt from Riverfront regulations in accordance with 310 CMR 10.58(6)(k). Our review of existing conditions and relevant historical documentation has determined that the subject parcel - including building footprints, driveways and parking areas - meet the definition of a Historic Mill Complex and therefore are exempt from Riverfront Area regulations.

A list of all enclosed documents is as follows:

- *Appendix A: MACRIS Record arl-621*
Source: Massachusetts Historical Commission
- *Appendix B: 11. Theodore Schwamb's Factory and Home,*
Source: Menotomy Minuteman Historical Trail website

2. Existing Conditions

The subject property, located at 1165-1167 Mass Ave. is located within a heavily developed portion of Arlington. The property is currently developed with a series of old mill buildings and associated structures including paved parking areas. Wetland resource areas onsite consist of a perennial stream (Mill Brook), which flows in a northwest to southeast direction through the property in an armored channel, directly underneath some of the existing mill buildings (Photos 1 & 2). Riverfront resource area extends 200 feet in both directions from the mean annual high water of the Brook, as shown on the Existing Conditions plan. Both the banks and stream bed of the brook are armored with a mixture of concrete and granite block over the entire run of the subject parcel.



Photo 1: Southeast facing view of Mill Brook taken from within the channel. The banks and bed of the stream are heavily armored over its course of the subject parcel.



Photo 2: Northwest facing view of Mill Brook as it flows underneath the historic Charles Shwamb Co. mill building. Bed armoring in this stretch consists of smooth poured concrete.

According to the enclosed Mass. Historical “MACRIS” record of the property (Appendix A), the original mill building which spans Mill Brook was constructed in 1905. It is noted, additionally, that “Mills have stood at this site on the brook from the late 18th c.”

The MACRIS document does not establish a date of construction for a number of the accessory buildings and structures, however analysis of a sequence of historical aerial photographs from 1939 (Photo 3), 1955 (Photo 4) and 2018 (Photo 5) definitively shows that the mill buildings in their current configuration were in existence and therefore constructed prior to 1946, which is a key date in the definition described in Section 3.

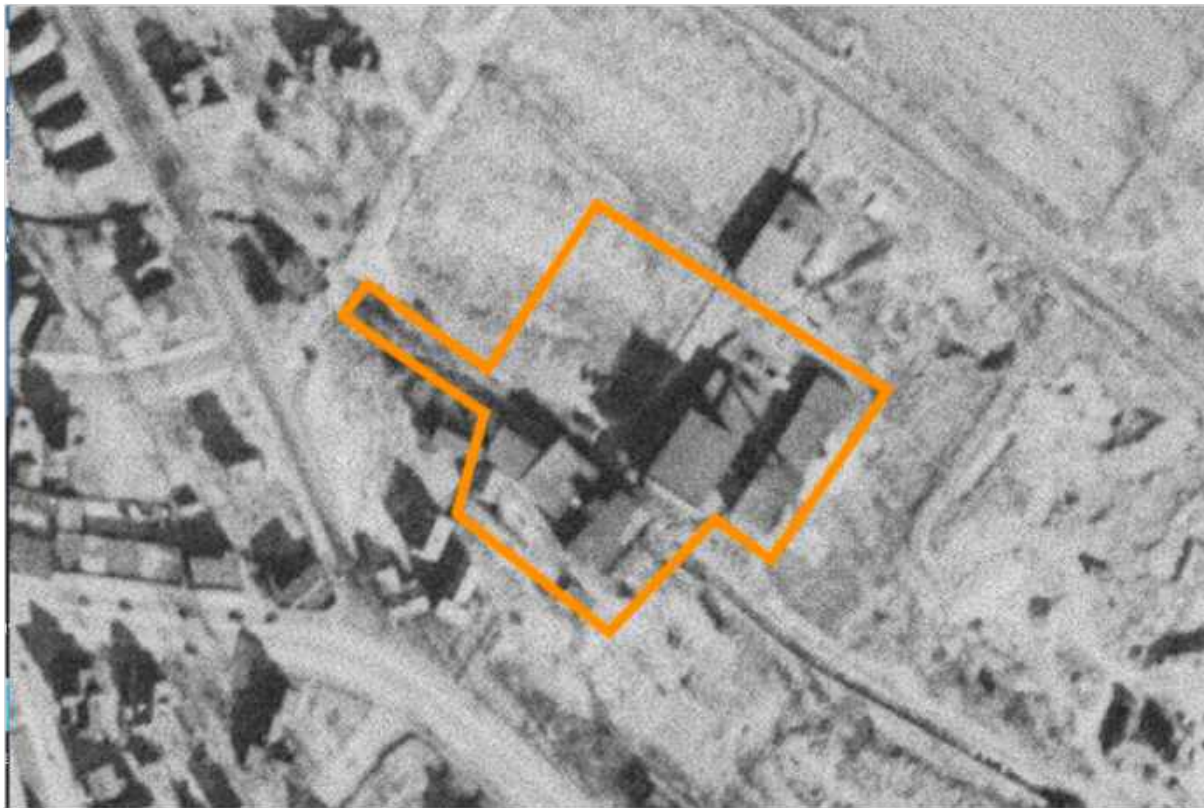


Photo 3: Aerial image from 1939, showing the mill buildings and the approximate property boundary.



Photo 4: Aerial image of the subject parcel taken in 1955.

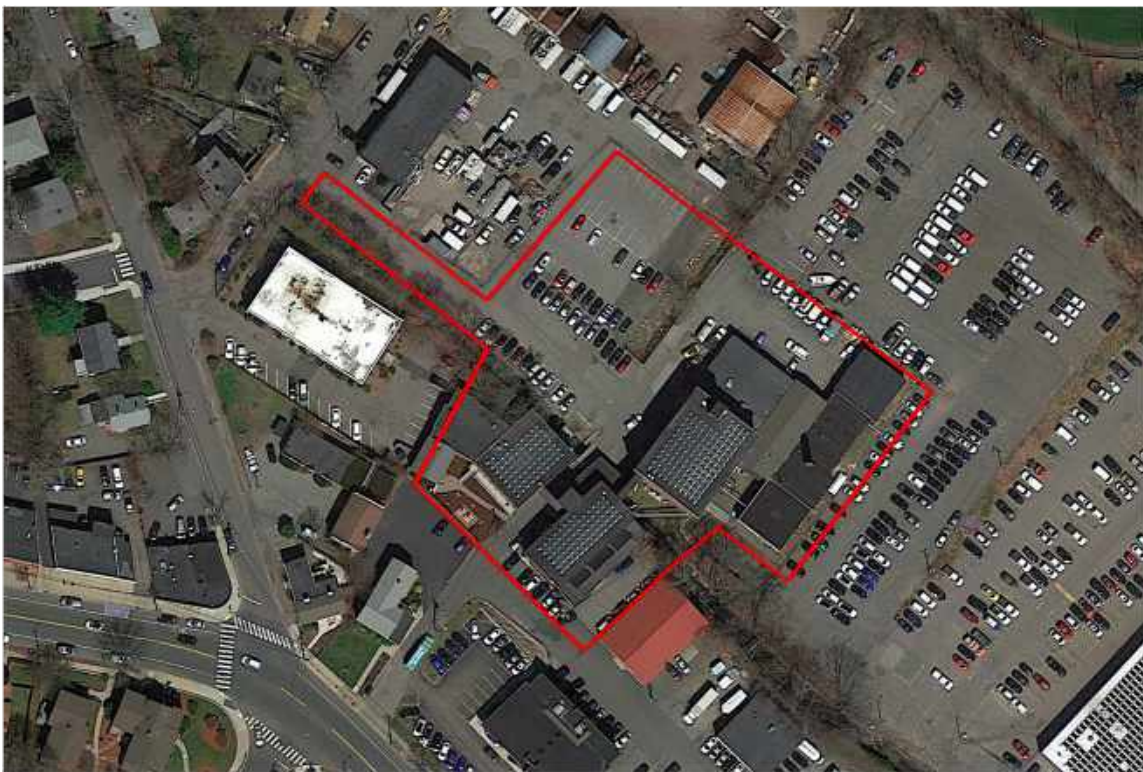


Photo 5: Aerial view of the subject parcel, taken 4/22/2018.

3. Regulatory Context

In the Definitions section of the WPA Regulations (310 CMR 10.04), Historic Mill Complex is defined as:

“mill complexes in, but not limited to, Holyoke, Taunton, Fitchburg, Haverhill, Methuen, and Medford in existence prior to 1946 and situated landward of the waterside facade of a retaining wall, building, sluiceway, or other structure existing on August 7, 1996. An historic mill complex also means any historic mill included on the Massachusetts Register of Historic Places. An historic mill complex includes only the footprint of the area that is or was occupied by interrelated buildings (manufacturing buildings, housing, utilities, parking areas, and driveways) constructed before and existing after 1946, used for any type of manufacturing or mechanical processing and including associated structures to provide water for processing, to generate water power, or for water transportation.”

The imagery and historical documents presented above confirm that the mill complex was in fact “constructed before and existing after 1946.” Therefore, the “footprint of the area that is occupied by interrelated buildings” should be considered part of a Historic Mill Complex pursuant to 310 CMR 10.04.

In the Riverfront Regulations, 310 CMR 10.58(6)(k) states:

“Notwithstanding the Provisions of 310 CMR 10.58(1) through (5), Certain Activities or Areas Are Grandfathered or Exempted from Requirements for the Riverfront Area:

(k) Activities with an Historic Mill Complex.”

Therefore, activities within the “footprint of the area that is occupied by interrelated buildings” should be exempted from requirements of the Riverfront Area.

If there are any questions concerning this submission, please do not hesitate to contact me.

Sincerely,

Goddard Consulting, LLC

by 

Dan Wells, M.S.
Senior Wildlife Biologist & Wetland Scientist

August 10, 2020

Arlington Conservation Commission
730 Massachusetts Ave.
Arlington, MA 02476

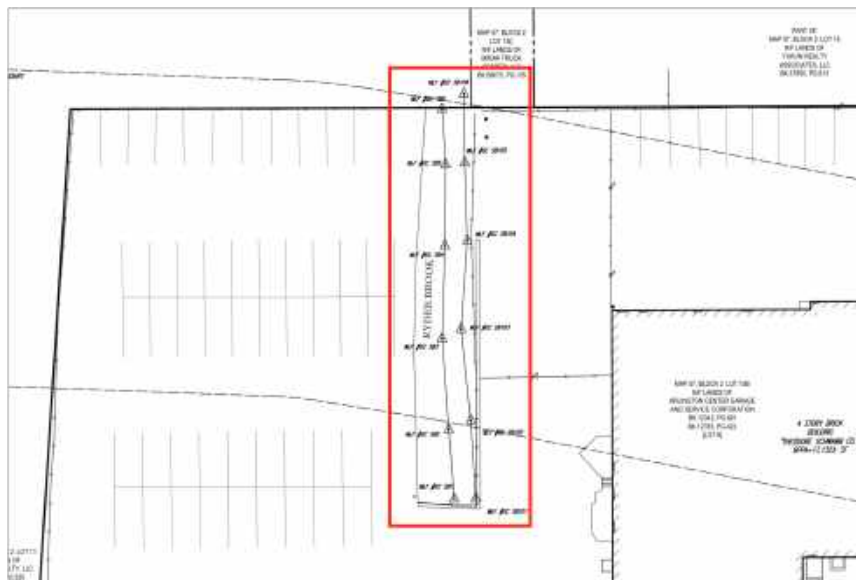
Re: Drainage Ditch Analysis
1165-1167 Mass Ave. & 0 Ryder Street - Arlington, MA

1. Introduction

Goddard Consulting, LLC (Goddard), is pleased to submit this RDA on behalf of "1165R Mass Ave MA Property LLC" for the property known as 1165-1167 Mass Ave in Arlington. The purpose of this analysis is to provide evidence to the Commission that the existing drainage ditch shown on the Existing Conditions plan (known locally as "Ryder Brook") does not meet the definition of "stream" according to 310 CMR 10.04 and is therefore not a jurisdictional resource area.

2. Existing Conditions

The banks of the drainage ditch were delineated by Goddard Consulting with flags labeled SB1-6 on the west side and SB101-106 on the east side, as shown on the Existing Conditions plan dated 8/5/20.



The onsite portion of the ditch conveys stormwater through a portion of the property before it enters a culvert and ultimately connects to Mill Brook. The daylighted portion of the ditch originates at a culvert discharge offsite just below the Minuteman Bikeway and flows towards the subject property. Using existing and historical imagery, USGS StreamStats and on-the-ground inspections, I determined that there are no freshwater wetlands upgradient of the discharge point from under the Minuteman Bikeway, and that the source of the water flowing through the ditch (when it is flowing) is likely entirely from catch basins.

It contains well-defined banks and is bordered by greater than 90% upland plant species with upland soils, so no Bordering Vegetated Wetlands are present alongside. The ditch was observed to be completely dry on 8/10/20 (Photo 1), and is therefore considered to be “intermittent.”



Photo 1 - View of dry ditch on 8/10/20.

3. Mapping Analysis

The earliest available USGS map of the subject area is from 1903 (Figure 1). In this image, there is a clear stream system leading down slope of Turkey Hill from a mapped wetland (within purple circle) into Mill Brook. Note that the map shows what is now known as Ryder Brook flowing northwest of the subject property.

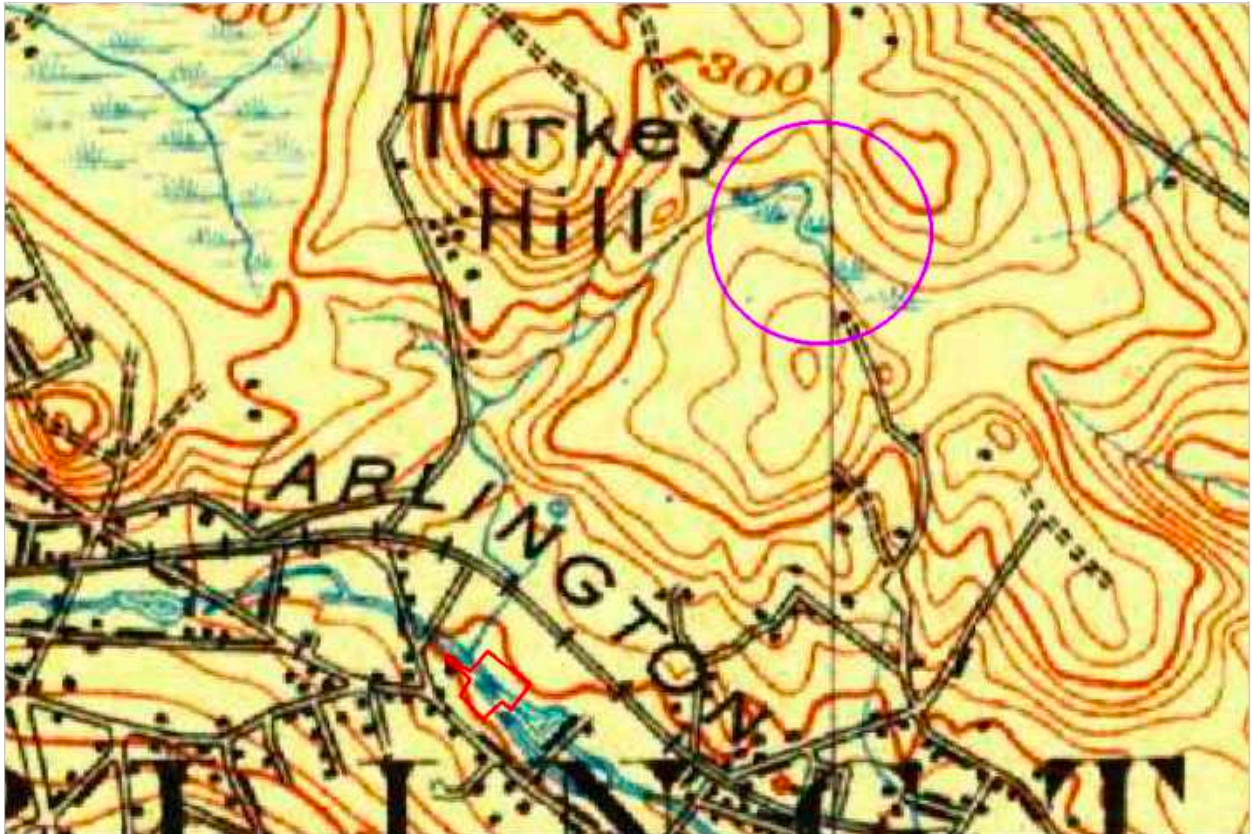


Figure 1 - USGS map from 1903.

A subsequent USGS map from 1943 (Figure 2) shows a similar stream system flowing down Turkey Hill to Mill Brook, but no longer a wetland at the source (purple circled area).



Figure 2 - USGS map from 1943.

Just three years later, a map from 1946 (Figure 3) shows a complete disappearance of the former source wetland (purple circle) and of the stream system down Turkey Hill.



Figure 3 - USGS map from 1946.

A map from 1956 (Figure 4) indicates that the entire area had been converted to residential neighborhoods.



Figure 4 - USGS map from 1956.

Finally, the current USGS map from 2018 (Figure 5) shows no wetlands or streams leading down Turkey Hill towards Mill Brook.

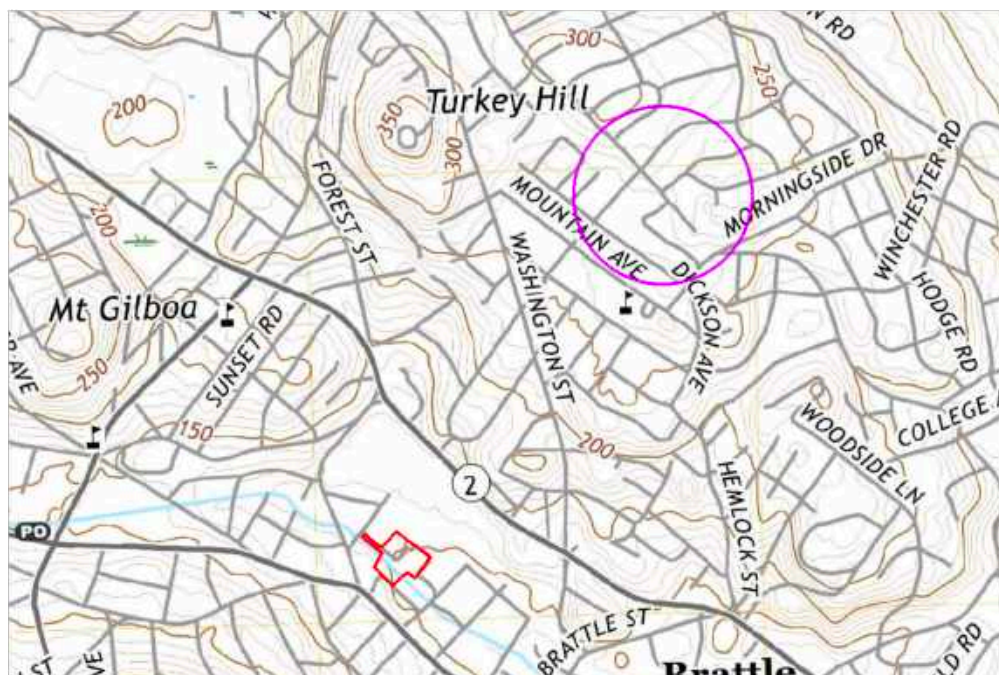


Figure 5 - USGS map from 2018.

The USGS StreamStats website is another valuable tool for analyzing streams and watersheds. The following images (Figures 6 & 7) show the current delineation of streams connecting to Mill Brook in the vicinity of the subject property (as a map and ortho view respectively).

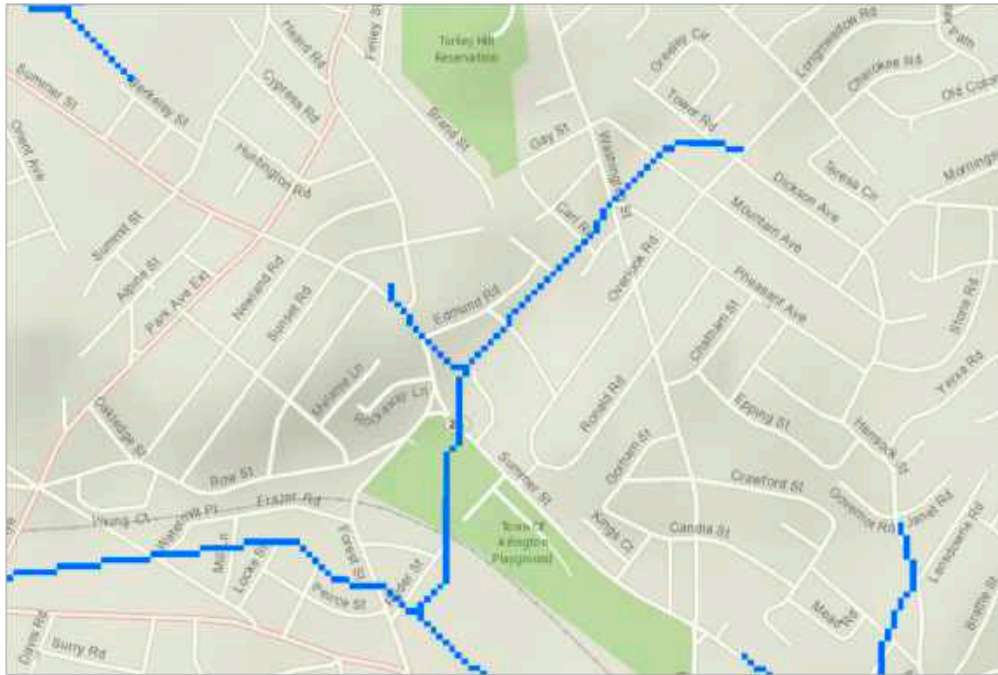


Figure 6 - StreamStats map view of streams flowing into Mill Brook.

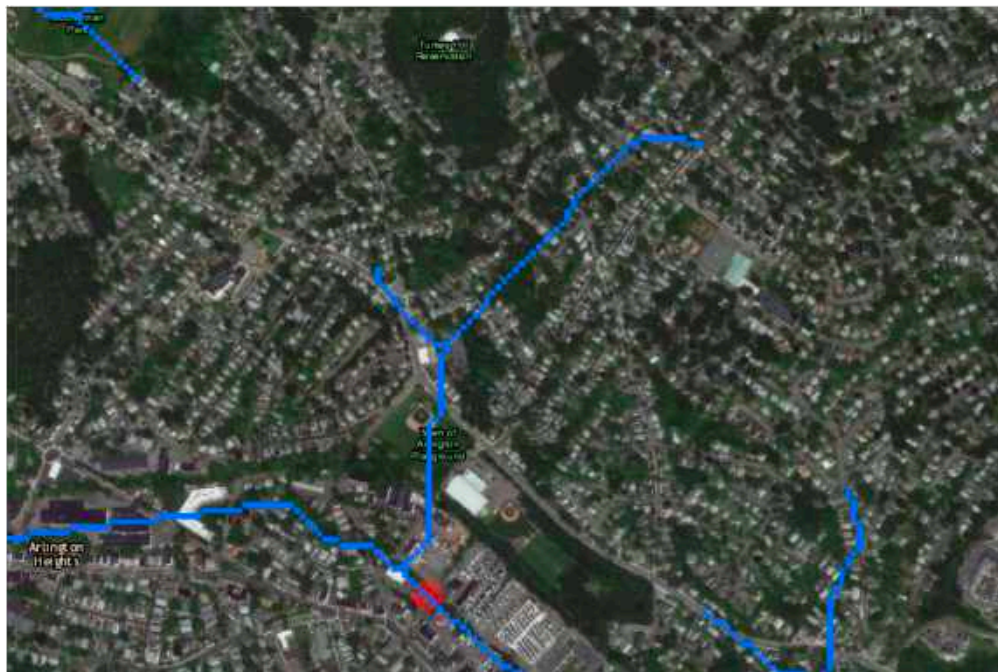


Figure 7 - Orthophoto view of StreamStats stream mapping.

Using the StreamStats map as a guide, I inspected the mapped drainage, from near the top of Turkey Hill at Tower Lane/Hiawatha Road and zig-zagged down the slope by car and on foot, looking for any indication of streams or wetlands. I did not observe any sign of wetlands or streams from Turkey Hill to the culvert discharge just below the Minuteman Bikeway. I concluded that there are no wetlands upgradient of the onsite drainage ditch.

4. Regulatory Context

The following is the official definition of “Stream” from the WPA Regulations.

Stream means a body of running water, including brooks and creeks, which moves in a definite channel in the ground due to a hydraulic gradient, and which flows within, into or out of an Area Subject to Protection under M.G.L. c. 131, § 40. A portion of a stream may flow through a culvert or beneath a bridge. Such a body of running water which does not flow throughout the year (*i.e.*, which is intermittent) is a stream except for that portion upgradient of all bogs, swamps, wet meadows and marshes.

(310 CMR 10.04)

The last phrase of this definition is the key to our assertion that the ditch is not a jurisdictional stream: “except for that portion upgradient of all bogs, swamps, wet meadows and marshes.” There are no bogs, swamps, wet meadows or marshes presently upgradient of the ditch, therefore I conclude that it is not a stream, in accordance with 310 CMR 10.04.

If there are any questions concerning this submission, please do not hesitate to contact me.

Sincerely,

Goddard Consulting, LLC

by 

Dan Wells, M.S.
Senior Wildlife Biologist & Wetland Scientist

2018 WL 6040701 (Mass.Dept.Env.Prot.)

Department of Environmental Protection

Commonwealth of Massachusetts

IN THE MATTER OF 104 STONY BROOK, LLC

OADR Docket No. WET-2017-021

May 21, 2018

*1 Weston, MA

THE OFFICE OF APPEALS AND DISPUTE RESOLUTION

RECOMMENDED FINAL DECISION

INTRODUCTION

The Petitioner, 104 Stony Brook, LLC (“Petitioner” or “Stony Brook”), challenges the Superseding Order of Resource Area Delineation (“SORAD”) issued by the Massachusetts Department of Environmental Protection's Northeast Regional Office (“DEP”) concerning Stony Brook's real property at 104 Boston Post Road, Weston, Massachusetts (“the Property”). The SORAD was issued pursuant to the Wetlands Protection Act, [G.L. c. 131 § 40](#), and the Wetlands Regulations, [310 CMR 10.00](#). The protected Resource Areas at the Property include Riverfront Area and Bordering Vegetated Wetlands (“BVW”). See [G.L. c. 131 § 40](#); [310 CMR 10.02](#); [310 CMR 10.55](#) and [10.58](#).

Stony Brook lodged this appeal after its request to exempt the Property from the Riverfront Area regulations was denied by both the Weston Conservation Commission (“Commission”) and DEP in the Order of Resource Area Delineation (“ORAD”) and SORAD, respectively. Shortly after filing this appeal here, with the Office of Appeals and Dispute Resolution (“OADR”), Stony Brook filed a motion for summary decision arguing that the Property is exempt from regulation as Riverfront Area pursuant to Section 18 of the Rivers Protection Act (or “Rivers Act”). Stony Brook argues that the Property is exempt because of its asserted association with an historic mill complex. That association, Stony Brook contends, provides an exemption under the Rivers Protection Act from regulation as a Riverfront Area.

The other parties—DEP, Intervener City of Cambridge, and the Commission—all opposed the motion for summary decision, and filed cross motions for summary decision. Those parties assert that the purported exemption under the Rivers Protection Act is inapplicable. Instead, they contend that DEP promulgated regulations that implement the historic mill complex exemption in the Rivers Act and the Property is not encompassed within the scope of that regulatory exemption.

There are no genuine issues of material fact, and thus the appeal is ripe for summary decision. After reviewing the parties' pleadings, the applicable law, and the administrative record I conclude that the Rivers Act does not exempt the Property from being regulated as Riverfront Area. When the Massachusetts Legislature enacted the Rivers Act it charged DEP with promulgating regulations to implement that act. DEP did that when it promulgated [310 CMR 10.58](#) (Riverfront Area regulations) and the definition of Historic Mill Complex in [310 CMR 10.04](#). As a consequence, those regulations are the controlling regulatory authority for historical mill complex exemptions in the Riverfront Area, not the Rivers Act.

Contrary to Stony Brook's argument, DEP's regulatory exemption for Historic Mill Complexes properly and validly implements the Rivers Act's historic mill exemption. As a consequence, the regulatory exemption is the only historic mill complex

exemption, and there are not two exemptions, one under the Rivers Act and the other under the regulations, as Stony Brook argues. The Property fails to satisfy the criteria for exemption under the regulations, and as a consequence the Property is not exempt. Summary decision should therefore be entered in favor of DEP, Cambridge, and the Commission to affirm the SORAD, and against Stony Brook.

EVIDENCE

*2 The evidence in the administrative record is derived from pre-filed written testimony and exhibits submitted by the parties. The testimony is sworn to under the penalties of perjury, and thus materially equivalent to an affidavit. Pre-filed testimony was filed on behalf of the witnesses identified below.

For Stony Brook, testimony from the following witnesses is in the administrative record:

1. Timothy J. Williams. Williams is a Massachusetts licensed professional engineer, employed with Allen & Major Associates. Williams is a civil engineer who has knowledge of wetlands laws and has been involved in the permitting phase of the project. No educational background information was provided for him.
2. David Calhoun. Calhoun is a principal of Stony Brook. He provided historical information concerning the Property. No educational background information was provided for him.

For the Weston Conservation Commission testimony from the following witness is in the administrative record:

1. Michele Grzenda. Grzenda is employed as the Weston Conservation Commission Administrator. Grzenda has 10 years of experience as a conservation administrator and 7 years of experience as an environmental consultant. She has 21 years of experience in wetlands and water resources management. No educational background information was provided for her.

For DEP testimony from the following witness is in the administrative record:

1. Heidi Davis. Davis has been employed with DEP in its Division of Wetlands and Waterways Program since 1989. She has substantial experience in wetlands permitting and enforcement matters. She served as the primary point person for DEP's Northeast Regional Office in connection with the implementation of the Rivers Protection Act. She is a certified wetlands scientist and has a BA in environmental science.

BACKGROUND

On December 22, 2016, Stony Brook filed an Abbreviated Notice of Resource Area Delineation (“ANRAD”) to obtain an Order of Resource Area Delineation (“ORAD”) confirming the delineation of BVW and Riverfront Area.¹ The ANRAD is an appropriate procedural mechanism to determine regulatory jurisdiction under the Wetlands Protection Act and the Wetlands Regulations.

Indeed, the Wetlands Regulations at [310 CMR 10.05 \(3\)\(a\)](#) provide that any person who wishes to know whether the Wetlands Act applies to land or to work that may affect a resource area may file a request for a determination of applicability with the local conservation commission. Matter of Bosworth, Docket No. WET-2015-015, Recommended Final Decision (February 17, 2016), adopted by Final Decision (March 14, 2016). The request is sometimes referred to as an ANRAD, the acronym for “abbreviated notice of resource area delineation.” The process provides a procedure for a party to confirm the delineation of wetland Resource Areas that are identified on the plans filed with the conservation commission, [310 CMR 10.05\(4\)\(b\)2](#). In response, the conservation commission issues an ORAD, generally affirming or rejecting the ANRAD. An ORAD is binding as to the location of resource areas identified by the proponent. [310 CMR 10.05\(6\)\(a\)3](#), It is not binding with respect to resource

areas at the property that were not identified by the proponent. Bosworth, supra.; Matter of Boston Properties, LP, Docket No. WET 2004-012, Recommended Final Decision (May 4, 2012), adopted by Final Decision (May 11, 2012).

***3** ORADs are generally entitled to preclusive effect for a period of three years, or longer if they are extended. See Matter of Tompkins-Desjardins Trust, Docket No. WET-2010-035, Recommended Final Decision (April 1, 2011), adopted by Final Decision (April 7, 2011). The purpose of allowing a period for reliance upon the ORAD is to facilitate reasonable reliance and predictability for those affected by the ORAD property. Id.

Here, after holding hearings, the Commission issued an ORAD denying Stony Brook's request to exempt the Property under the Rivers Protection Act. Stony Brook appealed to DEP, requesting a SORAD. DEP issued a SORAD confirming the BVW delineation and confirming that the Property is not entitled to an exemption under the Rivers Act. The matter is now on appeal here, before OADR.

The Property consists of 2.09 acres, or 91,040.4 square feet. According to the SORAD, the Property contains upland area, Riverfront Area for Stony Brook, and Buffer Zone to BVW. Approximately 17,000 square feet of the Property is located within the Riverfront Area. Most of the Property is wooded. Davis PFT,² ¶ 23. Only one building, known as the historic Nathaniel Sibley House, is presently located on the Property. It sits far from Stony Brook, outside of the Riverfront Area on the upland portion of the Property.

Under the Wetlands Regulations and Wetlands Act, the Riverfront Area is the land between the mean annual high-water line of a perennial stream and a parallel line 200 feet away. G.L. c. 131 § 40; 310 CMR 10.58(2)(a); Matter of Skeffington, Docket No. WET 2009-049, Recommended Final Decision (March 30, 2010), adopted by Final Decision (April 9, 2010). Riverfront Area is likely to be “significant to protect the private or public water supply; to protect groundwater; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries.” 310 CMR 10.58(1). Land adjacent to rivers and streams can protect the natural integrity of these water bodies. The presence of natural vegetation within riverfront areas is critical to sustaining rivers as ecosystems and providing these public values. 310 CMR 10.58(1) and (3) (absent evidence to the contrary a Riverfront Area is presumed to be significant to the protection of these interests).

I discuss below the undisputed material facts in the light most favorable to Stony Brook. Beginning in about 1679, the area surrounding the Property was substantially developed by mills and related industrial purposes, particularly along Stony Brook. The estimated total surrounding mill area ranges from 73-150 acres. The Property was purchased in 1832 by Nathaniel Sibley, Henry Coolidge, and Joseph Treat. A mill existed on the bank of Stony Brook near but not on the Property until around the 1880s. By 1831, other buildings in the area but not on the Property included a saw mill, grist mill, cider mill, two barns, ice house, cattle shed, and piggerly.

***4** In about 1885, much of the Property was taken by laws enacted by the Massachusetts Legislature for the City of Cambridge water supply. Any mill related operations ceased at that time. Cambridge was consequently vested with certain water rights, resulting in the creation of the 75 acre Stony Brook Reservoir. It is undisputed that another mill-related building was not constructed on the Property from 1885 to the present. Williams PFT, ¶¶ 9-11; Exhibits 6, 7, 14, 15; Calhoun PFT, Exhibit 2.

The Site Plan in this appeal depicts evidence of 4 buildings on the Property— the existing Sibley House and remnants of 3 structures that were razed in or before the 1960s. The Sibley house remains on the upland portion of the Property, approximately 500 feet from the river. It is now used as an office building. All that is left of the 3 remaining structures are small remnants of stone foundations. There is uncontroverted evidence showing that by around 1940 to 1945 the Property was the homestead of Nathaniel L. Sibley, not a mill complex. Grzenda PFT, Exhibit 8. Of the three razed structures, the one closest to the river was what has been referred to as the Bigelow House, named after the apparent owner, Abraham Bigelow. It and the Sibley House may have been used for a period of time until the 1880s as boarding houses for mill employees. The evidence indicates

that a corner of the Bigelow House may have touched or slightly extended into the 200 foot Riverfront Area. Williams PTT, Exhibit 21; Davis PFT, ¶ 36.

Aside from the Sibley house, the remainder of the Property consists primarily of woods, in addition to paved parking and access driveways. Stony Brook is a perennial stream located southeast of the Property on land owned by Cambridge. It discharges into the Stony Brook Reservoir, which is located south of the site and is owned by Cambridge.

STANDARD OF REVIEW

The Adjudicatory Rules, [310 CMR 1.01\(1\)\(f\)](#), provide for the issuance of summary decision where the pleadings together with the affidavits (or pre-filed written testimony) show that there is no genuine issue as to any material fact and that the moving party is entitled to a decision in its favor as a matter of law. See *Matter of Papp*, Docket No. DEP-05-066, Recommended Final Decision, (November 8, 2005), adopted by Final Decision (December 27, 2005); *Matter of Lowes Home Centers Inc.*, Docket No. WET-09-013, Recommended Final Decision (January 23, 2009), adopted by Final Decision (February 18, 2009). A motion for summary decision in an administrative appeal is similar to a motion for summary judgment in a civil lawsuit. See *Matter of Lowe's Home Centers, Inc.*, *supra*, (citing [Massachusetts Outdoor Advertising Council v. Outdoor Advertising Board](#), 9 Mass. App. Ct. 775, 785-86 (1980)).

DISCUSSION

I. Section 18 of the Rivers Protection Act is not Applicable as an Exemption

The Rivers Act. This appeal is grounded in the Rivers Protection Act and whether DEP properly implemented the historic mill complex exemption in the Rivers Act. In 1996, the Wetlands Act, [G.L. c. 131 § 40](#), was amended by the Rivers Protection Act, Chapter 258 of the Acts of 1996. The Rivers Protection Act created the Riverfront Area as a new protected resource area under the Wetlands Act. See [310 CMR 10.02\(1\)](#). When it enacted the Rivers Protection Act the legislature stated that its purposes are “to protect the private or public water supply; to protect the groundwater; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect fisheries,” Rivers Act, § 1. The Rivers Act is not intended to diminish the protections and exemptions provided in [G.L. c. 131 § 40](#). Rivers Act, § 1.

*5 When the legislature drafted the Rivers Protection Act it included Section 18, which relates to when “historic mill complexes” are exempt from the Riverfront Area. Section 18 specifically provides the following:

The riverfront area shall not include land now or formerly associated with historic mill complexes including, but not limited to, the mill complexes in the Cities of Holyoke, Taunton, Fitchburg, Haverhill, Methuen and Medford in existence prior to nineteen hundred and forty-six and situated landward of the waterside face of a retaining wall, building, sluiceway, or other structure existing on the effective date of this act. (emphasis added)

At the same time it enacted the Rivers Act, the legislature also delegated to DEP the obligation to “adopt such regulations as are deemed necessary to carry out the purposes of this act.” Rivers Act, § 4 (emphasis added). The legislature also required that the regulations adopted by DEP “shall be filed with the joint committee on natural resources and agriculture sixty days prior to their effective date ...” Rivers Act, § 4. The Rivers Act further required DEP to create a “riverfront advisory committee for the purpose of participating in the review of the rules and regulations promulgated pursuant to the provisions of § 4 of the th[e] act.” The act prescribed the committee's membership. Rivers Act, § 11.

DEP's Regulatory Promulgation Process. DEP followed the legislative directive and amended the Wetlands Regulations with: [310 CMR 10.58](#), which regulates the Riverfront Area created by the Rivers Act, and the definition of Historic Mill Complex in [310 CMR 10.04](#). See Preface: 1997 Regulatory Revisions for the Rivers Protection Act Amendments to the Wetlands Protection Act (summarizing the regulations and the regulatory development process). DEP's rulemaking process included the "Riverfront Advisory Committee," which, as required by the Rivers Act, was comprised of: "four representatives of environmental organizations, a developer, and a representative for real estate, agriculture and aquaculture interests. Three committee members owned land within the riverfront area. The committee met biweekly from January through April, 1997." 1997 Preface, § II.

"The Department also had the benefit of comments from other knowledgeable individuals from the development, environmental, and legal communities. The Department held seven public hearings in May 1997 and received over 1,200 pages of comments from citizens, environmental organizations and development interests." 1997 Preface, § II.

DEP engaged in a robust drafting and rulemaking process, as exemplified above and by the "Riverfront Advisory Committee Meeting Summary" from the January 31, 1997 meeting. DEP Motion, Exhibit 5. Topics for discussion included, among other things, the historic mill complex exemption and the need to define "'historic mill complexes," such as: how to "better define the limits of the parcel," "limits to the area covered by the exemption," and how to encourage redevelopment. *Id.* At that particular meeting, 22 people were present. *Id.*

*6 In the Preface to the Riverfront Area regulations, DEP stated that while it was drafting and promulgating the regulations it "received comments expressing many conflicting views of the legislative intent behind the Rivers Protection Act. [DEP stated that] [t]he regulations are designed to implement the statute by providing clear procedures and substantive criteria to guide applicants, conservation commissions, and Department staff from project design through the decision making process. The new provisions governing riverfront areas are located at [310 CMR 10.58](#); the variance provisions formerly at [310 CMR 10.58](#) and [10.36](#) have been moved to [310 CMR 10.05 \(10\)](#)." 1997 Preface, § III (emphasis added).

The regulations were promulgated July 25, 1997, and became effective October 6, 1997, after the 60 mandatory legislative review period "with the joint committee on natural resources and agriculture" expired. Rivers Act, § 4.

The regulations contain an extensive discussion of the importance of the Riverfront Area, providing that it is:

likely to be significant to protect the private or public water supply; to protect groundwater; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries. Land adjacent to rivers and streams can protect the natural integrity of these water bodies. The presence of natural vegetation within riverfront areas is critical to sustaining rivers as ecosystems and providing these public values. The riverfront area can prevent degradation of water quality by filtering sediments, toxic substances (such as heavy metals), and nutrients (such as phosphorus and nitrogen) from stormwater, nonpoint pollution sources, and the river itself. Sediments are trapped by vegetation before reaching the river. Nutrients and toxic substances may be detained in plant root systems or broken down by soil bacteria. Riverfront areas can trap and remove disease-causing bacteria that otherwise would reach rivers and coastal estuaries where they can contaminate shellfish beds and prohibit safe human consumption. Natural vegetation within the riverfront area also maintains water quality for fish and wildlife.

“Although Massachusetts has almost 9000 miles of rivers, the riverfront area is less than one percent of the state's total acreage. The purpose of the Rivers Protection Act is to preserve the natural integrity of rivers and adjacent land for the important values these areas provide to all citizens of the Commonwealth.” 1997 Preface, § I.

Pursuant to the Rivers Act's charge for DEP to draft regulations it “deemed necessary to carry out the purposes of th[e] act”³ DEP promulgated regulations pertaining to the “historic mill complex” exemption that originated in Section 18 of the Act. Thus, DEP promulgated provisions “[e]xempt[ing]” or “[g]randfather[ing]” certain activities or areas, including “[a]ctivities within an Historic Mill Complex,” [310 CMR 10.58\(6\)\(k\)](#). The phrase “Historic Mill Complex was undefined in the Rivers Act, and so DEP defined it in the regulations as follows:

*7 Historic Mill Complex means the mill complexes in, but not limited to, Holyoke, Taunton, Fitchburg, Haverhill, Methuen, and Medford in existence prior to 1946 and situated landward of the waterside facade of a retaining wall, building, sluiceway, or other structure existing on August 7, 1996. An historic mill complex also means any historic mill included on the Massachusetts Register of Historic Places. An historic mill complex includes only the footprint of the area that is or was occupied by interrelated buildings (manufacturing buildings, housing, utilities, parking areas, and driveways) constructed before and existing after 1946, used for any type of manufacturing or mechanical processing and including associated structures to provide water for processing, to generate water power, or for water transportation.

[310 CMR 10.04](#) (Historic Mill Complex definition).

Application of the Regulatory Exemption. At first blush, the resolution of this appeal would seem to be straightforward: DEP followed the legislative directive and process to promulgate regulations to implement the “purposes” of the Rivers Protection Act. Ordinarily, and absent an ambiguity, the plain meaning of those regulations is controlling. Matter of Sullivan, Docket No. WET 2011-013, Recommended Final Decision (May 31, 2011), adopted by Final Decision (June 22, 2011); Matter of Milton, Docket No. WET 2011-030, Recommended Final Decision (March 29, 2012), adopted by Final Decision (April 6, 2012).

Stony Brook, however, contends that to follow that path in this appeal would be a mistake. It argues that DEP's regulations exempting historic mill complexes is inconsistent with and distinctly different from the historic mill complex exemption in the Rivers Protection Act. It believes that the statutory exemption in Section 18 of the Rivers Act is much broader than DEP's regulatory exemption. As a consequence, it contends that the apparent conflict should be dealt with by harmonizing the regulation and the statute to create *two different* exemptions, a regulatory exemption and a statutory exemption. In brief, it argues that the statutory exemption applies to “land now or formerly associated with historic mill complexes.” In contrast, the regulatory exemption applies to “[a]ctivities within an Historic Mill Complex.” [310 CMR 10.58\(6\)\(k\)](#), Stony Brook argues that I should apply only the statutory exemption to the Property, as no “activities” have yet been proposed for the Riverfront Area and the statutory exemption is broader. Stony Brook argues that the entire 2.1 acres is exempt because it includes “land now or formerly associated with historic mill complexes.”⁴

There are a number of reasons why Stony Brook's position is without merit. The first is that there is no indication that DEP intended its historic mill regulatory exemption to be a distinctly different exemption from the statutory exemption. Instead, what is abundantly clear is that DEP intended to follow through on its legislative charge to promulgate regulations to implement the purposes of the Rivers Act as an amendment to the Wetlands Act, and not create an exemption that is in addition to the exemption in the statute. In fact, the Wetlands Regulations state: “As of October 6, 1997, the revised [310 CMR 10.00](#) must be

used to implement the Rivers Protection Act.” 1997 Preface, § II. Under these circumstances, the regulatory implementation of a legislative directive is typically controlling.

*8 Moreover, Stony Brook's argument itself is internally inconsistent. There is no rational reason to create two exemptions, one applying simply to land and one applying to activities within the footprint of historic mill complexes. A broader statutory “land” exemption would subsume the narrower regulatory activities exemption, i.e., the land exemption would swallow the activities exemption, rendering it superfluous. Also important is that with the Rivers Act the legislature was acting to expand wetlands protection (to Riverfront Areas) and carve out an exemption in those newly created Riverfront Areas for historic mill complexes. The intention was not, as Stony Brook advocates, to carve out a blanket protection for land associated with historic mill complexes regardless whether the mill complex is in the Riverfront Area or regardless of when the mill complex purportedly existed.⁵ Indeed, that would exceed DEP's own jurisdiction and the bounds of jurisdiction under the Wetlands Act and Wetlands Regulations. It would also be contrary to the purpose of the River Act and violate the axiom that exemptions are to be narrowly construed. [Woods v. Executive Office of Communities and Development](#), 411 Mass. 599, 604-605 (1992) (statutory exception is to be narrowly construed).

Further, Stony Brook's argument for a statutory land exemption *and* a regulatory activities exemption sets up a false dichotomy under the Wetlands Act and the Wetlands Regulations, which the legislature explicitly intended as the regulatory foundation. The reference to “activities” is a jurisdictional trigger that applies throughout the Wetlands Regulations *and* the Wetlands Act to the other wetlands resource areas identified in the Wetlands Act and the Wetlands Regulations. Before the Rivers Act, the wetlands resource areas included: bank, fresh water wetland, coastal wetland, beach, dune, flat, marsh, meadow or swamp bordering on the ocean or on any estuary, creek, river, stream, pond, or lake, or any land under said waters or any land subject to tidal action, coastal storm flowage, or flooding, [G.L. c. 131 § 40, ¶ 1](#); [310 CMR 10.02\(1\)](#). These wetlands regulatory schemes did not protect the land or areas per se. Instead, and in *general*, they regulated certain activities in those areas. Broadly speaking, there is no jurisdiction under the Wetlands Regulations or the Wetlands Act until there is an alteration, work, or activity occurring or to be proposed in jurisdictional wetland resource areas. The Wetlands Act itself states in pertinent part: “No person shall remove, fill, dredge or alter [a Wetlands Resource Area] ... without filing written notice of his intention to so remove, fill, dredge or alter, including such plans as may be necessary to describe such proposed activity and its effect on the environment and without receiving and complying with an order of conditions and provided all appeal periods have elapsed. Said notice shall be filed ... in which the proposed activity is to be located ...” [G.L. c. 131 § 40, ¶ 1](#) (emphasis added). The Regulations are similarly replete with references to “activity” as a jurisdictional trigger. See e.g. [310 CMR 10.01\(2\)](#); [310 CMR 10.02\(2\)](#); [310 CMR 10.03\(7\)\(c\)](#); [310 CMR 10.04](#) (Agriculture(b)); [310 CMR 10.04](#) (General Performance Standards); [310 CMR 10.04](#) (Project Site); 10.58.

*9 The regulations at [310 CMR 10.02\(2\)](#) articulate in detail the “Activities Subject to Regulation under [M.G.L. c. 131 § 40](#).” So when the legislature enacted the Rivers Act to amend the Wetlands Act to include Riverfront Area as a resource area it set forth the general purpose for the historic mill exemption but explicitly left implementation of that exemption to DEP, which correctly confined jurisdiction to *activities* within the Riverfront Area. Like other resource areas, it's not the land itself within the Riverfront Area that is regulated, instead it is certain activities in those areas. As a consequence, Stony Brook's distinction between the regulation of land versus the regulation of activities sets up a false choice. The legislature explicitly charged DEP with implementing the Legislature's Riverfront Area amendment to the Wetlands Act through the Wetlands Regulations, both of which only regulate activities that “remove, fill, dredge or alter” the protected resource areas.

This conclusion is consistent with two prior DEP Final Decisions. In one, the Final Decision specifically rejected similar reasoning that was articulated by an administrative law judge before the parties reached a settlement agreement, which mooted the appeal itself. Nevertheless, in the Final Decision approving the settlement agreement the Commissioner specifically rejected and disavowed the administrative law judge's decision. See [Matter of James Knott, Sr.](#), Docket No. 2001-48, Final Decision (November 22, 2002) (incorporating settlement agreement and specifically rejecting in a footnote the Recommended Final Decision and its reasoning that advanced arguments similar to those proffered by Stony Brook.); see also [Northpoint Realty Development Corp.](#), Docket No. 2001-064, Ruling On Motions for Summary Decision (March 4, 2003) (recognizing, without detailed analysis, that the regulatory exemption “codifies the statutory” exemption, which is to be “narrowly construed”).

The Regulation is Consistent with the Statutory Charge. Stony Brook advances other arguments why it believes DEP's regulatory exemption of Historic Mill Complexes is inconsistent with and exceeds the authority of the historic mill exemption of Section 18 of the Rivers Act. Given Stony Brook's articulated inconsistency between the statute and the regulation and its challenge to the validity of the regulation, I turn to principles of interpretation established by the courts. Although Stony Brook has not argued the regulations are wholly invalid, its argument asserts that the regulation is inconsistent with the statute and the statutory purpose, and is not applicable to the Property. As a consequence, the regulatory validity test is applicable. I therefore apply the two-part framework used to determine whether regulations promulgated by an agency are valid.

The first part of the framework is to employ the “conventional rules of statutory interpretation” to determine “whether the Legislature has spoken with certainty on the topic in question.” [Goldberg v. Board of Health of Granby](#), 444 Mass. 627, 632-633, 830 N.E.2d 207 (2005); see [Mass. Teachers' Ret. Sys. V. Contributory Ret. Appeal Bd.](#), 466 Mass. 292, 994 N.E.2d 355, 362 (2013). When the court determines that a statute is unambiguous the court gives effect to the legislature's intent. [Navy Yard Four Associates, LLC v. Department of Environmental Protection](#), 88 Mass. App. Ct. 213, 37N.E.3d 46 (2015).

*10 Second, if “the Legislature has not directly addressed the issue and the statute is capable of more than one rational interpretation, [the tribunal must] proceed to determine whether the agency's interpretation may be reconciled with the governing legislation”. [Bio gen IDEC MA, Inc. v. Treasurer & Receiver Gen.](#), 454 Mass. 174, 187, 908 N.E.2d 740 (2009) (quotation and citation omitted); [Goldberg](#), 908 N.E.2d at 213. The “second stage of [[the] analysis requires ‘substantial deference’ to the expertise and statutory ‘interpretation of [the] agency charged with primary responsibility’ for administering a statute.” [Goldberg](#), 908 N.E.2d at 213. “At the second stage, regulations ‘are not to be declared void unless their provisions cannot by any reasonable construction be interpreted in harmony with the legislative mandate.’” [Goldberg](#), 908 N.E.2d at 213 (quoting [Berrios v. Department of Pub. Welfare](#), 411 Mass. 587, 595, 583 N.E.2d 856(1992)).

Statutory Ambiguity and Deference. During the rulemaking process DEP properly recognized that the Rivers Act's exemption for historic mill complexes is ambiguous and DEP sought to clarify that while remaining consistent with the purpose of the Rivers Act. That DEP recognized this ambiguity during the drafting process and sought to clarify it is exemplified by the DEP “Riverfront Advisory Committee Meeting Summary” from the January 31, 1997 meeting. DEP Motion, Exhibit 5. Topics for discussion included, among other things, the historic mill complex exemption and the need to define “historic mill complexes,” such as: how to “better define the limits of the parcel,” “limits to the area covered by the exemption,” and how to encourage redevelopment. *Id.* At that particular meeting, 22 people were present. *Id.*

Section 18 of the Rivers Act is ambiguous. It references “land now or formerly associated with historic mill complex ...” This ambiguous phrase raises a number of questions, the first being what is an “historic mill complex?” Second, what does it mean for land to be now or formerly associated with an historic mill complex? Does it mean land that at anytime in history, even as far back as the 1600s, that had some association with an historic mill complex is exempt? Does that include an association that is as tenuous as an area where millworkers lived, socialized, or shopped, regardless whether there was a physical association between that land and the actual mill complex? Does it include land that was used for storage of materials for the mill complex but never actually occupied by a mill complex? Does it include land that was associated with an historic mill complex for only a very small period of time? Does it include land that served only as a dumping ground for the mill complex or a source of timber for building? Thus, the statutory ambiguity is readily apparent.

*11 And what is meant by the statute's reference to “historic mill complexes including, but not limited to, the mill complexes in the Cities of Holyoke, Taunton, Fitchburg, Haverhill, Methuen and Medford in existence prior to nineteen hundred and forty-six ... ?” Does it mean, as Stony Brook argues, based upon the prior antecedent rule, that the temporal limitation of 1946 applies only to the mill complexes in those specifically identified cities, and otherwise there is no 1946 temporal limitation in the statute?

Given this ambiguity, the second stage of the test requires me to determine “whether the agency's interpretation may be reconciled with the governing legislation”. [Biogen IDEC MA, Inc. v. Treasurer & Receiver Gen.](#), 454 Mass. 174, 187, 908

N.E.2d 740 (2009) (quotation and citation omitted); [Goldberg](#), 908 N.E.2d at 213. There must be “substantial deference” to DEP’s interpretation and the regulations ‘are not to be declared void unless their provisions cannot by any reasonable construction be interpreted in harmony with the legislative mandate.’” [D’ Goldberg](#), 908 N.E.2d at 213 (quoting [Berrios v. Department of Pub. Welfare](#), 411 Mass. 587, 595, 583 N.E.2d 856 (1992)). The ultimate question is whether the policy embodied by the agency’s interpretation is “reasonable.” [Bio gem](#) 454 Mass. at 187.

There are several guideposts—all applicable here—to consider in determining whether DEP’s regulation is reasonable. “In examining the regulatory response to statutory silence or ambiguity, it is unimportant whether [a court] would have come to the same interpretation of the statute as the agency.” [Goldberg](#), 908 N.E.2d at 213 (emphasis added). “Statutory silence, like statutory ambiguity, often requires that an agency give clarity to an issue necessarily implicated by the statute but either not addressed by the Legislature or delegated to the superior expertise of agency administrators.” [Goldberg](#), 908 N.E.2d at 214. “Administrative agencies are more suited to the task of clarifying the Legislature’s plan through specific rules, and more able to provide for ‘consistency and coherence,’ than are courts... [Judicial] deference is especially appropriate where, as here, the statutes in question involve an explicit, broad grant of rule-making authority.” [Goldberg](#), 908 N.E.2d at 214.

Although an agency may only exercise “the powers and duties expressly conferred upon it by statute and such as are reasonably necessary to carry out its mission ... a plaintiff challenging the validity of an agency’s regulations has a formidable burden.” [Biogen](#), 454 Mass. at 187 (internal citation omitted).

“Statutory silence, like statutory ambiguity, often requires that an agency give clarity to an issue necessarily implicated by the statute but either not addressed by the Legislature or delegated to the superior expertise of agency administrators.” [Goldberg](#), 444 Mass. at 634 (emphasis added); see [Middleborough v. Housing Appeals Comm.](#), 449 Mass. 514, 523, 870 N.E.2d 67 (2007).

*12 Additional deference to regulations as being within the legislative intent is accorded when the legislature retains, as here, the opportunity to review the regulations but does not exercise its authority to challenge and alter those regulations. [Navy Yard Four](#), 37 N.E.3d at 55; [MRI Assocs., Inc. v. Department of Pub. Health](#), 70 Mass. App. Ct. 337, 342 n.8, 874 N.E.2d 419 (2007). “Deference to an agency’s interpretation of statutory silence, or ambiguity, is particularly appropriate where, as here, the regulation in question was promulgated immediately after the enactment of the governing legislation.” [Mass. Teachers’ Ret. Sys. v. Contributory Ret. Appeal Bd.](#) 466 Mass. 292, 994 N.E.2d 355, 362 (2013). Additional deference is provided when “the record indicates that [the regulation] was the product of ‘thoughtful, reasoned deliberation,’ and not ‘rash, uninformed rule making ...’” [Mass. Teachers’ Ret. Sys. V. Contributory Ret. Appeal Bd.](#), 994 N.E.2d at 362.

All of the preceding guideposts militate in favor of upholding DEP’s regulations for historic mill complexes: The legislature specifically required DEP to draft implementing regulations; DEP promptly drafted those regulations; DEP utilized a rigorous public deliberative process; the legislature reserved an opportunity to review the regulations prior to becoming effective; and the legislature left the regulations unchanged, indicating its assent. This properly promulgated regulation is “not to be declared void unless [its] provisions cannot by any reasonable construction be interpreted in harmony with the legislative mandate,” [Dowell v. Commissioner of Transitional Assistance](#), 424 Mass. 610, 613 (1997); [Consolidated Cigar Corp. v. Department of Public Health](#), 372 Mass. 844, 850 (1977) (agency has considerable leeway in interpreting a statute is charged with enforcing).

DEP’s historical mill complex regulation is reasonable and consistent with Section 18 of the Rivers Act. First, it addresses the *temporal* requirements for an historic mill complex. It references the historic mill complexes in Holyoke, Taunton, Fitchburg, Haverhill, Methuen, and Medford as examples, without limitation, of exempt historic mill complexes if they were in existence as of 1946; this is a reasonable construction of the statute. The regulation also reasonably establishes that the historic mill complex, i.e., the interrelated buildings making up the complex, must have been in existence on the effective date of the Rivers Act, August 7, 1996, as specifically required by the statute (“existing on the effective date of this act”).

Last, the regulation defines “mill complex” including the surface area of land, as the statute frames it, “now or formerly associated” with the mill complex. The regulation defined that to be “only the footprint of the area that is *or was* occupied

by interrelated buildings (manufacturing buildings, housing, utilities, parking areas, and driveways) constructed before and existing after 1946, *used* for any type of manufacturing or mechanical processing and including associated structures to provide water for processing and including associated structures to provide water for processing to generate water power, or for water transportation.” (emphasis added) This recognizes the statute’s inclusion of land that was “formerly associated” with the complex by stating that such land may be included in the regulatory exemption if it “was” occupied by interrelated areas and “used” for the specified purposes, assuming the other criteria are met. It also recognizes that “complex” generally means interrelated or interconnected.⁶

***13** This is an entirely reasonable interpretation of an otherwise ambiguous provision that implements the legislature’s desire to exempt certain areas from the Riverfront Area in order to encourage development of historic complexes. It accomplishes that objective while also serving the broader, overarching purpose of the Rivers Act—the protection of rivers and the Riverfront Area that acts to naturally enhance and preserve rivers. Indeed, exempting areas outside the DEP definition would possibly, in many cases, not serve the purpose of encouraging development of historic complexes nor the protection of the river. Instead, it could serve to arbitrarily exempt areas that had little connection to a mill complex and are not in need of incentives for development.

Stony Brook makes a number of arguments that are without merit. Stony Brook contends that the 1946 date found in the statute “applies to a specific universe of listed cities cited with mills in the statute rather than to all historic mills based upon accepted rules of statutory interpretation of antecedent phrases and the precise use of commas.” Stony Brook motion, p. 13 (citing Knott). It argues that the modifying clause in the statute—“in existence prior to nineteen hundred and forty-six”—applies only to the immediately precedent mills in the referenced cities and towns and not to all historic mills. Stony Brook motion, p. 13. It adds that if the legislature had inserted a comma after “Medford” the phrase “in existence prior to nineteen hundred and forty six” would have referred not only to mill complexes located in the listed cities but, as well, to any of the historic mill complexes of which those in the listed cities are a subset, regardless of their location. Stony Brook concludes that because no comma follows the list of cities, the phrase following the list of cities modifies the list of cities that precedes it. This is sometimes referred to as the last antecedent rule.

Stony Brook argues that the list of cities is the “last antecedent.” If the legislature intended the exemption to apply only to those mills in existence in 1946 and 1996, it would not need to reference the cities and towns. Stony Brook motion, p. 13. Moreover, Stony Brook adds, the legislature would not have used the terms “now” or “formerly” if it had intended to exempt mill complexes in existence in 1946 and 1996. All statutory terms must be given effect. Stony Brook motion, p. 14 (citing [Recinos v. Escobar](#), 473 Mass. 734 (2016), and similar decisions).

Thus, Stony Brook concludes that the term “associated with” means “joined, connected, or related.” Stony Brook motion, p. 14 (citing Knott). As a consequence, here, the exempt property includes the entire 2.09 acres “which was used by the community for mill work, boarding, growing and harvesting crops and day to day activities.” Stony Brook motion, p. 14.

***14** Stony Brook introduced evidence from which one could conclude that by 1845 the area surrounding the Property, perhaps as much as 73 to 150 acres, was an active mill site complex. Some buildings were in operation until 1884 when property was taken to create the Stony Brook Reservoir for Cambridge. “[A]t least one building was operational prior to and after 1946 until its destruction in the 1960s.” Stony Brook motion, p. 9; Williams PFT, ¶¶ 8-20. Stony Brook asserts that “there is overwhelming evidence to find that the mill complex uses took place on the entire Property ... and that it is exempt from the definition of ‘Riverfront Area’” Stony Brook motion, p. 9; Williams PFT.

Stony Brook’s argument, however, would have the absurd result of confining the 1946 qualification to a small number of cities, while leaving no temporal restriction for the remainder of the Commonwealth, a result that seems quite arbitrary. There is no apparent rational basis to impose the temporal limitation solely upon those cities, and meanwhile exempt other Riverfront Areas with no temporal limitation, which would be contrary to the main objective of protecting Riverfront Areas. Indeed, “it is a well-established canon of statutory construction that a strictly literal reading of a statute should not be adopted if the result will be to thwart or hamper the accomplishment of the statute’s obvious purpose, and if another construction which would avoid this

undesirable result is possible.” [Watros v. Greater Lynn Mental Health and Retardation Ass'n, Inc.](#), 421 Mass. 106, 113(1995). In contrast, it would have been rational for the legislature to have a temporal limitation that is equally applicable throughout the Commonwealth. It seems equally rational that the historic mill complexes would have had to at least been in existence at the time the statute was enacted, which is the implicit temporal limitation that DEP made explicit in the regulations—August 7, 1996.

With respect to the last antecedent rule, it is important to remember that “when the intent of the Legislature is not evident based solely on the words of a statute, extrinsic aids may be helpful but they do not supply hard and fast rules. The last antecedent rule is not always a certain guide.” [New England Survey Systems, Inc. v. Department of Industrial Accidents](#), 89 Mass. App. Ct. 631, 638-39, 53 N.E.3d 675, 681-82 (2016) (citing [Selectmen of Tonsfield v. State Racing Commn.](#), 324 Mass. 309, 312, 86 N.E.2d 65 (1949); [Globe Newspaper Co. v. Boston Retirement Bd.](#), 388 Mass. 427, 432, 446 N.E.2d 1051 (1983)). “In particular, we do not apply the last antecedent rule when “there is something in the subject matter or dominant purpose [of the statute] which requires a different interpretation.” [New England Survey Systems](#), *supra*. (citing [Hopkins v. Hopkins](#), 287 Mass. 542, 547, 192 N.E. 145 (1934)). The last antecedent rule “is not an absolute and can assuredly be overcome by other indicia of meaning.” [ENGIE Gas & LNG LLC v. Department of Public Utilities](#), 475 Mass. 191, 199, 56 N.E.3d 740, 747-48 (2016) (quoting [Barnhart v. Thomas](#), 540 U.S. 20, 26, 124 S. Ct. 376, 157 L. Ed. 2d 333 (2003)). Applying the last antecedent rule here would lead to the absurd result discussed above and would seriously undermine the overarching purpose of the Rivers Act.

*15 For all the above reasons, Section 18 of the Rivers Act does not apply as an exemption for an historic mill complex.

II. No Part of the Riverfront Area is Exempt Pursuant to the Historic Mill Complex Exemption in 310 CMR 10.58(6)(k) and 310 CMR 10.04

The undisputed material facts demonstrate that no part of the Riverfront Area is exempt pursuant to the Historic Mill Complex exemption in [310 CMR 10.58\(6\)\(k\)](#) and [310 CMR 10.04](#). The evidence, viewed in the light most favorable to Stony Brook, failed to evidence an historic mill complex that was in existence before 1946 and until at least August 7, 1996. Instead, the evidence demonstrates that any mill complex that was arguably associated with the Property failed to exist after the property taking in the 1880s for the City of Cambridge water supply. After that, the Property was put to use for other purposes, including a homestead. In addition, the undisputed material facts fail to demonstrate that any part of the Riverfront Area includes the footprint of the area that is or was occupied by interrelated mill buildings (manufacturing buildings, housing, utilities, parking area, and driveways) in existence by 1946 and until at least August 7, 1996.

In fact, the only evidence of a mill-related use in the Riverfront Area was a partial foundation of a corner of the Bigelow house in the Riverfront Area which may have been used for housing mill employees. But it is undisputed that it was not in existence as of August 7, 1996. After the destruction of the Bigelow House in the early 1960s no structures existed at the Property except the Sibley House, which is located outside of the Riverfront Area. Grzenda PFT, ¶¶ 13.

For the above reasons, there is no genuine issue of material fact that any part of the Riverfront Area is exempt under [310 CMR 10.58\(6\)\(k\)](#) and [10.04](#). In addition, as discussed in section I, the Rivers Act, Section 18, does not apply as an exemption. Therefore, the DEP Commissioner should issue a Final Decision affirming the SORAD.

NOTICE-RECOMMENDED FINAL DECISION

This decision is a Recommended Final Decision of the Presiding Officer. It has been transmitted to the Commissioner for his Final Decision in this matter. This decision is therefore not a Final Decision subject to reconsideration under [310 CMR 1.01\(14\)\(d\)](#), and may not be appealed to Superior Court pursuant to M.G.L. c. 30A. The Commissioner's Final Decision is subject to rights of reconsideration and court appeal and will contain a notice to that effect.

Because this matter has now been transmitted to the Commissioner, no party shall file a motion to renew or reargue this Recommended Final Decision or any part of it, and no party shall communicate with the Commissioner's office regarding this decision unless the Commissioner, in his sole discretion, directs otherwise.

Timothy M. Jones
Presiding Officer

Footnotes

- 1 Stony Brook has filed a Comprehensive Permit with the Town of Weston Zoning Board of Appeals seeking to construct 150 rental units in an 8 story building on the Property outside the Riverfront Area.
- 2 “PFT” is the acronym for pre-filed testimony.
- 3 Rivers Act, § 4 (emphasis added).
- 4 Stony Brook's assertion that the Wetlands Regulations for historic mill complexes are not consistent with the Rivers Protection Act may properly be considered in this forum. See Matter of SEMASSNext Hit Partnership, OADR Docket No. 2012-015, Recommended Final Decision (June 18, 2013), adopted by Final Decision (June 24, 2013).
- 5 Stony Brook argues that its entire 2.1 acre land should be “exempt.” Stony Brook Motion, pp. 1,4 (statutory exemption includes entire 2.1 acre area).
- 6 complex. Dictionary.com. Dictionary.com Unabridged. Random House, Inc. <http://www.dictionary.com/browse/complex> (accessed: May 21, 2018).

2018 WL 6040701 (Mass.Dept.Env.Prot.)



Office of the
Board of Assessors
Robbins Memorial Town Hall
Arlington, MA 02476
(781) 316-3050
Assessors@town.arlington.ma.us

Abutters List

Date: May 06, 2020

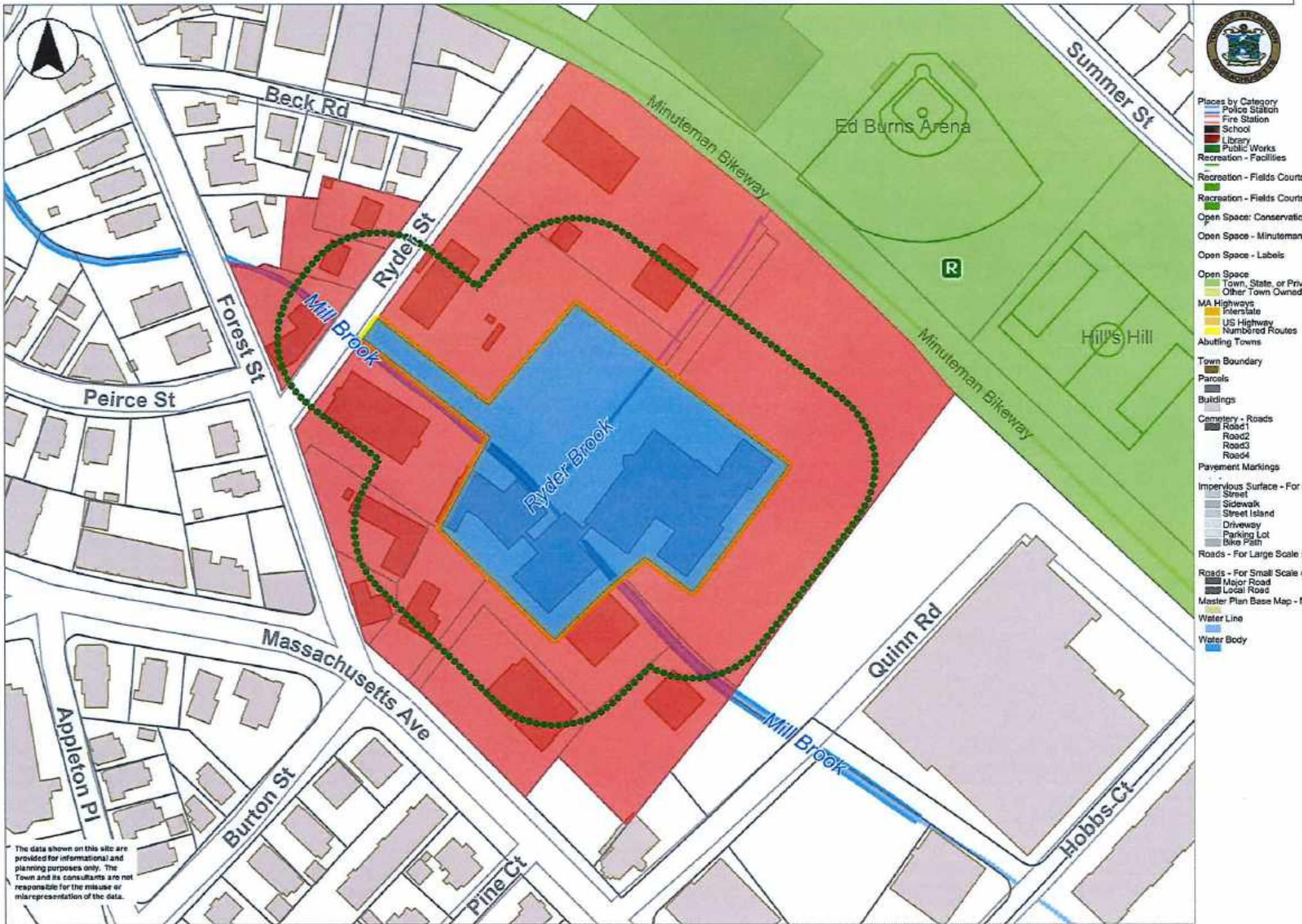
Subject Property Address: 1165-1167 MASS AVE Arlington, MA
Subject Property ID: 57-2-10.B

Search Distance: 100 Feet - Conservation

The Board of Assessors certifies the names and addresses of requested parties in interest, all abutters to a single parcel within 100 feet.

Kenn S. Feeley
Robert E. Greeley
[Signature]

Board of Assessors



Abutters List

Date: May 06, 2020

Subject Property Address: 1165-1167 MASS AVE Arlington, MA

Subject Property ID: 57-2-10.B

Search Distance: 100 Feet

Prop ID: 57-2-11

Prop Location: 15 RYDER ST Arlington, MA

Owner: LALICATA REALTY LLC

Co-Owner:

Mailing Address:

15 RYDER ST

ARLINGTON, MA 02476

Prop ID: 57-2-11.B

Prop Location: 33 RYDER ST Arlington, MA

Owner: TOWN OF ARLINGTON PARK

Co-Owner:

Mailing Address:

730 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-13

Prop Location: 5 FOREST ST Arlington, MA

Owner: NEIL L CROWLEY LLC

Co-Owner:

Mailing Address:

18 CRANES CT

WOBBURN, MA 01801

Prop ID: 57-2-15

Prop Location: 0-LOT RYDER ST Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-15.A

Prop Location: 1171 MASS AVE Arlington, MA

Owner: ANNESE ROBERT J TR J-JUDITH

Co-Owner: 1171 MASS AVE REALTY TRUST

Mailing Address:

2 SHIRE LANE

BEDFORD, MA 01730

Prop ID: 57-2-15.B

Prop Location: 1173 MASS AVE Arlington, MA

Owner: HOUSING CORPORATION OF

Co-Owner: ARLINGTON

Mailing Address:

252 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-15.C

Prop Location: 0-LOT RYDER ST Arlington, MA

Owner: MIRAK TRUCK CENTER LLC

Co-Owner:

Mailing Address:

1151 R MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-16

Prop Location: 1165 MASS AVE Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-16.A

Prop Location: 1155-R MASS AVE Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-16.B

Prop Location: 1151-R MASS AVE Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-7.B

Prop Location: 14 RYDER ST Arlington, MA

Owner: WEBER NICOLE R

Co-Owner:

Mailing Address:

14 RYDER ST

ARLINGTON, MA 02476

Prop ID: 57-2-7.C

Prop Location: 18 RYDER ST Arlington, MA

Owner: DESHPANDE NAREN/ANUJA

Co-Owner:

Mailing Address:

18 RYDER STREET

ARLINGTON, MA 02476

Prop ID: 57-2-8.A

Prop Location: 23 FOREST ST UNIT A Arlington, MA

Owner: ERICKSON KAREN

Co-Owner: TAYLOR THOMAS

Mailing Address:

23 FOREST STREET #A

ARLINGTON, MA 02476

Prop ID: 57-2-8.B

Prop Location: 23 FOREST ST UNIT B Arlington, MA

Owner: TEE ALEXANDER K

Co-Owner:

Mailing Address:

2 RYDER STREET UNIT B

ARLINGTON, MA 02476

Prop ID: 57-2-10.B**Prop Location: 1165-1167 MASS AVE Arlington, MA****Owner: ARLINGTON CENTER GARAGE &****Co-Owner: SERVICE CORP****Mailing Address:****438 MASS AVE SUITE 127****ARLINGTON, MA 02474**

Prop ID: 57.B-1-1**Prop Location: 9 RYDER ST UNIT 1 Arlington, MA****Owner: TZOVARAS GREGORIOS/ TRUSTEE****Co-Owner: GREGORIOS TZOVARAS TRUST****Mailing Address:****3 THOMAS STREET****WOBURN, MA 01801**

Prop ID: 57.B-1-10**Prop Location: 9 RYDER ST UNIT 10 Arlington, MA****Owner: HAMPTON SHELDON****Co-Owner:****Mailing Address:****9 RYDER STREET #10****ARLINGTON, MA 02476**

Prop ID: 57.B-1-11**Prop Location: 9 RYDER ST UNIT 11 Arlington, MA****Owner: HAN XIAOGANG****Co-Owner: DONG JENNIFER****Mailing Address:****508 LOWELL ST****LEXINGTON, MA 02420**

Prop ID: 57.B-1-12**Prop Location: 9 RYDER ST UNIT 12 Arlington, MA****Owner: AGUILAR LUZ G****Co-Owner:****Mailing Address:****9 RYDER ST UNIT 12****ARLINGTON, MA 02476**

Prop ID: 57.B-1-13**Prop Location: 9 RYDER ST UNIT 13 Arlington, MA****Owner: WINNIG-GIULIANO MICHAEL R****Co-Owner:****Mailing Address:****10 WOODLAND ST****NATICK, MA 01760**

Prop ID: 57.B-1-14**Prop Location: 9 RYDER ST UNIT 14 Arlington, MA****Owner: GILMARTIN WILLIAM T****Co-Owner:****Mailing Address:****9 RYDER ST #14****ARLINGTON, MA 02476**

Prop ID: 57.B-1-15**Prop Location: 9 RYDER ST UNIT 15 Arlington, MA****Owner: RYDER STREET LLC****Co-Owner:****Mailing Address:****46 COLUMBIA RD****ARLINGTON, MA 02474**

Prop ID: 57.B-1-16**Prop Location: 9 RYDER ST UNIT 16 Arlington, MA****Owner: JACOB JOAN/TRUSTEE****Co-Owner: 33 REGENT RD TRUST****Mailing Address:****107 CLOCKTOWER DR UNIT 204****WALTHAM, MA 02452**

Prop ID: 57.B-1-17**Prop Location: 9 RYDER ST UNIT 17 Arlington, MA****Owner: CHIN YOLANDA & JENNIFER****Co-Owner:****Mailing Address:****17 PIEDMONT ST****ARLINGTON, MA 02474**

Prop ID: 57.B-1-18**Prop Location: 9 RYDER ST UNIT 18 Arlington, MA****Owner: FALLAVOLLITA ROBERT P &****Co-Owner: PETITTO CATERINA & ANGLEA E****Mailing Address:****9 RYDER ST #18****ARLINGTON, MA 02474**

Prop ID: 57.B-1-19**Prop Location: 9 RYDER ST UNIT 19 Arlington, MA****Owner: BALIJEPALLI SURYA****Co-Owner:****Mailing Address:****568 NORTH RD****SUDBURY, MA 01776**

Prop ID: 57.B-1-2**Prop Location: 9 RYDER ST UNIT 2 Arlington, MA****Owner: CASEY TERESAE C****Co-Owner:****Mailing Address:****15 MARKET STREET****BILLERICA, MA 01821**

Prop ID: 57.B-1-20**Prop Location: 9 RYDER ST UNIT 20 Arlington, MA****Owner: RAFI SHOWKAT A****Co-Owner:****Mailing Address:****PO BOX 1134****BURLINGTON, MA 01803**

Prop ID: 57.B-1-21**Prop Location: 9 RYDER ST UNIT 21 Arlington, MA****Owner: CHIN RUSSELL****Co-Owner:****Mailing Address:****17 PEARL STREET****LEXINGTON, MA 02420**

Prop ID: 57.B-1-22**Prop Location: 9 RYDER ST UNIT 22 Arlington, MA****Owner: OWEN GERALDINE M ETAL/TRUSTEES****Co-Owner: EDWARD R OWEN FAMILY TRUST****Mailing Address:****9 RYDER ST #22****ARLINGTON, MA 02476**

Prop ID: 57.B-1-23
Prop Location: 9 RYDER ST UNIT 23 Arlington, MA
Owner: KIM JIN W & SUNGJA Y
Co-Owner:
Mailing Address:
1 BLANCHARD RD
CAMBRIDGE, MA 02138

Prop ID: 57.B-1-24
Prop Location: 9 RYDER ST UNIT 24 Arlington, MA
Owner: CHHIM BETHANY K
Co-Owner:
Mailing Address:
9 RYDER ST UNIT 24
ARLINGTON, MA 02474

Prop ID: 57.B-1-3
Prop Location: 9 RYDER ST UNIT 3 Arlington, MA
Owner: BUTTERS ARLENE
Co-Owner:
Mailing Address:
9 RYDER STREET--UNIT 3
ARLINGTON, MA 02476

Prop ID: 57.B-1-5
Prop Location: 9 RYDER ST UNIT 5 Arlington, MA
Owner: DOTALO CAROL A
Co-Owner:
Mailing Address:
9 RYDER STREET #5
ARLINGTON, MA 02476

Prop ID: 57.B-1-6
Prop Location: 9 RYDER ST UNIT 6 Arlington, MA
Owner: YANG JIQIN/LUO GUOYING
Co-Owner: TRS/THE YANG AND LUO TRUST
Mailing Address:
21 HERITAGE DRIVE
LEXINGTON, MA 02420

Prop ID: 57.B-1-7
Prop Location: 9 RYDER ST UNIT 7 Arlington, MA
Owner: OLIVER JEFFREY F & HOLLY H
Co-Owner:
Mailing Address:
40 BURNHAM RD
WINDHAM, NH 03087

Prop ID: 57.B-1-8
Prop Location: 9 RYDER ST UNIT 8 Arlington, MA
Owner: GRAZIANO GERALD J
Co-Owner:
Mailing Address:
59 THESDA STREET
ARLINGTON, MA 02474

Prop ID: 57.B-1-9
Prop Location: 9 RYDER ST UNIT 9 Arlington, MA
Owner: CHEN JERRY C
Co-Owner:
Mailing Address:
18 DOUGLAS ROAD
LEXINGTON, MA 02420



Office of the
Board of Assessors
Robbins Memorial Town Hall
Arlington, MA 02476
(781) 316-3050
Assessors@town.arlington.ma.us

Abutters List

Date: May 11, 2020

Subject Property Address: 0-LOT RYDER ST Arlington, MA
Subject Property ID: 57-2-15

Search Distance: 100 Feet - Conservation

The Board of Assessors certifies the names and addresses of requested parties in interest, all abutters to a single parcel within 100 feet.

Kenneth L. Feeley
Robert E. Greeley
[Signature]

Board of Assessors

Abutters List

Date: May 11, 2020

Subject Property Address: 0-LOT RYDER ST Arlington, MA

Subject Property ID: 57-2-15

Search Distance: 100 Feet

Prop ID: 56-3-1

Prop Location: 26 HOBBS CT Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 56-3-2

Prop Location: 1125-R MASS AVE Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-10.B

Prop Location: 1165-1167 MASS AVE Arlington, MA

Owner: ARLINGTON CENTER GARAGE &

Co-Owner: SERVICE CORP

Mailing Address:

438 MASS AVENUE SUITE 127

ARLINGTON, MA 02474

Prop ID: 57-2-11

Prop Location: 15 RYDER ST Arlington, MA

Owner: LALICATA REALTY LLC

Co-Owner:

Mailing Address:

15 RYDER ST

ARLINGTON, MA 02476

Prop ID: 57-2-11.B

Prop Location: 33 RYDER ST Arlington, MA

Owner: TOWN OF ARLINGTON PARK

Co-Owner:

Mailing Address:

730 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-15

Prop Location: 0-LOT RYDER ST Arlington, MA

Owner:

Co-Owner:

Mailing Address:

YUKON REALTY LLC

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-15.C

Prop Location: 0-LOT RYDER ST Arlington, MA

Owner: MIRAK TRUCK CENTER LLC

Co-Owner:

Mailing Address:

1151 R MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-16.A

Prop Location: 1155-R MASS AVE Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-16.B

Prop Location: 1151-R MASS AVE Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 57-2-19

Prop Location: 0-LOT QUINN RD Arlington, MA

Owner: YUKON REALTY LLC

Co-Owner:

Mailing Address:

1125 MASS AVE

ARLINGTON, MA 02476

Prop ID: 80-5-2.A

Prop Location: 0-LOT SUMMER ST Arlington, MA

Owner: TOWN OF ARLINGTON PARK

Co-Owner: PLAYGROUND

Mailing Address:

730 MASS AVE

ARLINGTON, MA 02476

Prop ID: 81-5-1.B

Prop Location: 424 SUMMER ST Arlington, MA

Owner: DEPT/CONSERVATION & RECREATION

Co-Owner: URBAN PARKS & REC. DIV

Mailing Address:

20 SOMMERSET

BOSTON, MA 02108

Abutter Notification

Notification to Abutters Under the Massachusetts Wetlands Protection Act

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

The Conservation Commission will hold a virtual public meeting using Zoom, on Thursday, September 3, 2020, at 7:45pm in accordance with the provisions of the Mass. Wetlands Protection Act (M.G.L. Ch. 131, s. 40, as amended), and in accordance with the Governor's Order Suspending Certain Provisions of the Open Meeting Law, G. L. c. 30A, § 20 relating to the COVID-19 emergency, for a Request for Determination of Applicability from 1165R Mass Ave Property, LLC, for a determination of whether areas indicated on the submitted plan are subject to the jurisdiction of the Wetlands Protection Act at 1165-1167 Massachusetts Avenue within 100 feet of Mill Brook and Ryder Brook and associated Riverfront Area and floodplain, on Assessor's Properties 57-2-10.B and 57-2-15. The Zoom access information for the meeting is below. Please refer to the Commission's online meeting agenda for specific meeting material.

Join Zoom Meeting

<https://town-arlington-ma-us.zoom.us/j/91270261660>

Meeting ID: **912 7026 1660**

Password: **386758**

Call-in: **+1 646 876 9923**

+1 301 715 8592

Meeting number: **912 7026 1660#**

A copy of the application and accompanying plans are available by request by contacting the Arlington Conservation Agent at 781-316-3012 or esullivan@town.arlington.ma.us. For more information call the applicant's representative Goddard Consulting at 508-393-3784 or the Arlington Conservation Commission at 781-316-3012, or the DEP Northeast Regional Office at 978-694-3200.

NOTE: Notice of the Public Hearing will be published at least five (5) business days in advance in *The Arlington Advocate* and will also be posted at least 48 hours in advance in the Arlington Town Hall.

The meeting information for your hearing is:

Date: Thursday, September 3, 2020

Time: 7:45pm

Affidavit of Service

(Please return to Conservation Commission)

I, Dan Wells, being duly sworn, do hereby state as follows: on August 20, 2020, I mailed a "Notification to Abutters" in compliance with the second paragraph of Massachusetts General Laws, Chapter 131, s.40, the DEP Guide to Abutter Notification dated April 8, 1994, and the Arlington Wetlands Protection Bylaw, Title V, Article 8 of the Town of Arlington Bylaws in connection with the following matter:

Request for Determination of Applicability
1165-1167 Mass Ave. & 0 Ryder Street - Arlington, MA

The form of the notification, and a list of the abutters to whom it was provided and their addresses, are attached to this Affidavit of Service.

Signed under the pains and penalties of perjury, this 20th day of August 2020

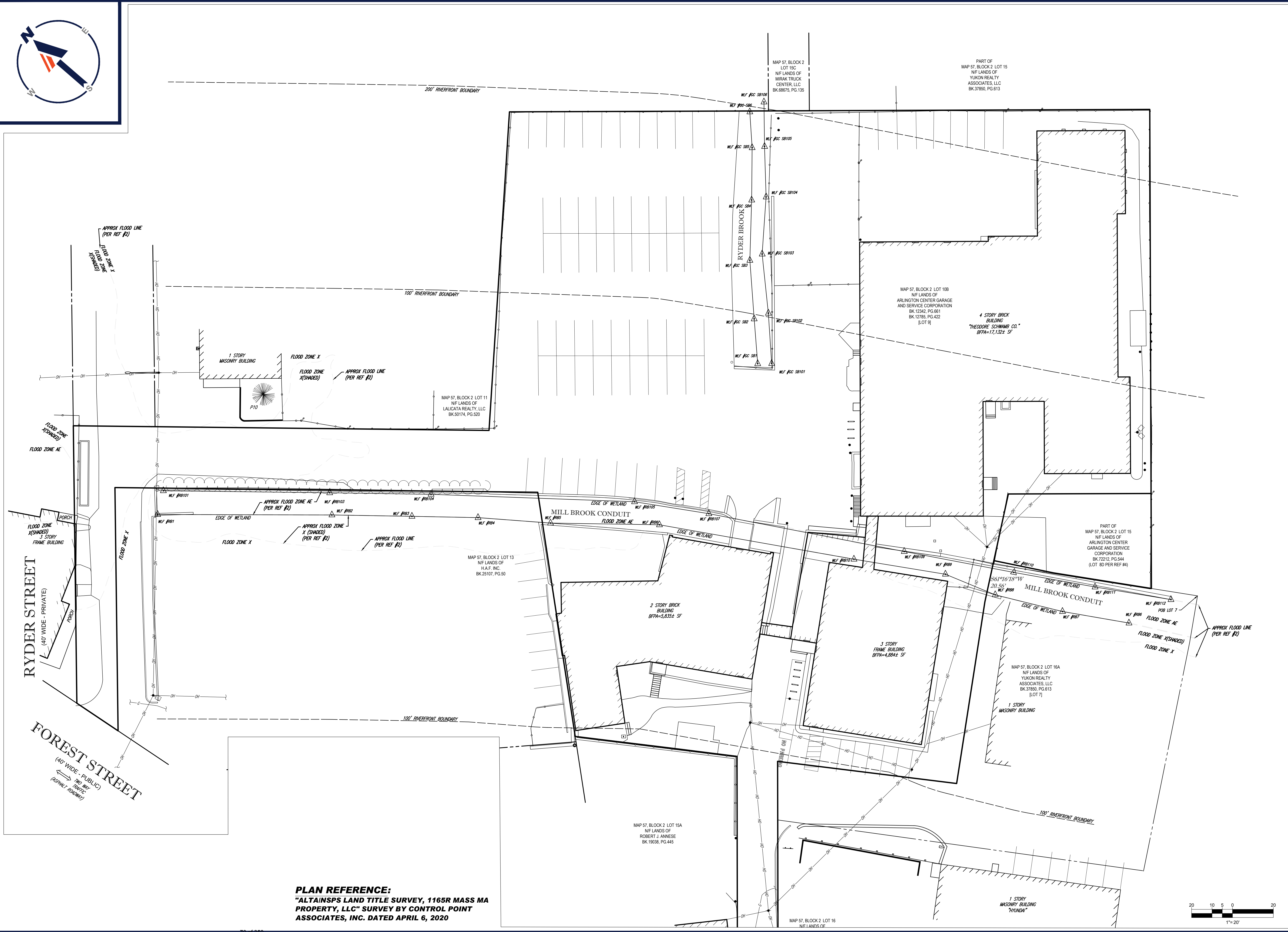


Name



P:\19\191330\DRAWINGS\EXHIBITS\191330 RDA EXHIBITS--LAYOUT-EC-1.dwg

MAP



PLAN REFERENCE:
"ALTAINSPS LAND TITLE SURVEY, 1165R MASS MA
PROPERTY, LLC" SURVEY BY CONTROL POINT
ASSOCIATES, INC. DATED APRIL 6, 2020

BOHLER

SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS				
REV	DATE	COMMENT	DRAWN BY	

ALWAYS CALL 811
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ISSUED FOR PERMIT

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PROJECT No.: W191330
DRAWN BY: AWP
CHECKED BY: JMJ
DATE: 08/07/2020
CAD ID: W191330 RDA EXHIBITS

PROJECT:

PROPOSED SITE
PLAN DOCUMENTS

FOR

1165R MASS MA
PROPERTY LLC

PROPOSED
RESIDENTIAL DEVELOPMENT
1165R MASSACHUSETTS AVE.
MIDDLESEX COUNTY
TOWN OF ARLINGTON, MA
MAP #57, BLOCK #2, LOT #10B
AND PART OF LOT #15

BOHLER

352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
Fax: (508) 480-9080
www.BohlerEngineering.com



SHEET TITLE:

EXISTING
CONDITIONS
PLAN

SHEET NUMBER:

EC-1

ORG. DATE - 08/07/2020

KRATTENMAKER O'CONNOR & INGBER P.C.

ATTORNEYS AT LAW

ONE MCKINLEY SQUARE
BOSTON, MASSACHUSETTS 02109
TELEPHONE (617) 523-1010
FAX (617) 523-1009

September 2, 2020

CHARLES G. KRATTENMAKER, JR.
MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

VIA EMAIL

Emily Sullivan
Conservation Agent
Arlington Conservation Commission
730 Massachusetts Avenue
Arlington, MA 02476

Re: 1165R Massachusetts Avenue, Arlington, MA

Dear Ms. Sullivan:

This letter is intended to provide additional information in response to your email of August 31, 2020 to Dan Wells at Goddard Consulting.

Enclosed are plans 1086 and 1088 of 1939, from December, 1939, which clearly show all three mill buildings constructed on land formerly owned by the Theodore Schwamb Co.. These plans also depict the parking field as well. Also enclosed is plan 860 of 1940 which, at the top half of the plan, evidences the fact that the Theodore Schwamb Co. owned everything south of the railroad tracks and east of Ryder Street.

1167R Massachusetts Avenue, which now houses WorkBar, formerly housed the Schwamb Piano Factory, where the company manufactured piano cases. As detailed in the attached article, in 1850, Charles and Jacob Schwamb moved the Dodge Mill to what is now 1167 Massachusetts Avenue to make piano cases. In 1853, Charles and Jacob were joined by Theodore, Peter and Frederick Schwamb, who operated a collaborative piano case business at 1165 Massachusetts Avenue. In 1928, Theodore's nephew purchased the company and discontinued the manufacture of piano casings and began to manufacture architectural woodwork. See the article by Grace Dingee and the photograph attached.

With respect to Lot 8D, a 2,950 square foot lot which is part of what is labeled "0 Ryder Street", directly abuts the Mill Brook and the rear mill building, incorrectly identified as 165R Massachusetts Avenue on Plan 110 of 2019, a copy of which is enclosed, the applicant would suggest to the Commission that it is indeed reasonable for the Commission to conclude that this area given its location was land clearly associated with the historic mill complex use.

It is the applicant's position that the parking fields and the access route to the west along Mill Brook is to be considered land within the historic mill complex which is exempt from the

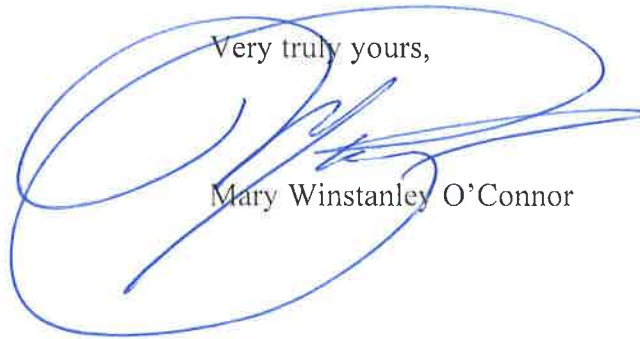
KRATTENMAKER O'CONNOR & INGBER P.C.

Emily Sullivan
September 2, 2020
Page 2

Riverfront Area since it is land clearly associated with the historic mill complex use. See Matter of 104 Stony Brook, LLC, OADR, Docket No. WET-2017-021, 12 (2018).

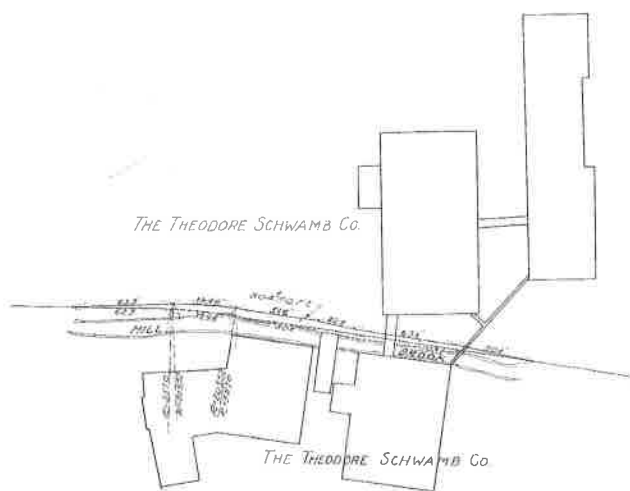
In the event you require any additional information, please do not hesitate to contact me or Dan Wells. I thank you.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'Mary Winstanley O'Connor', is written over the typed name. The signature is stylized with large loops and a long horizontal stroke at the end.

Mary Winstanley O'Connor

MWO/ccg
Enclosures
6926



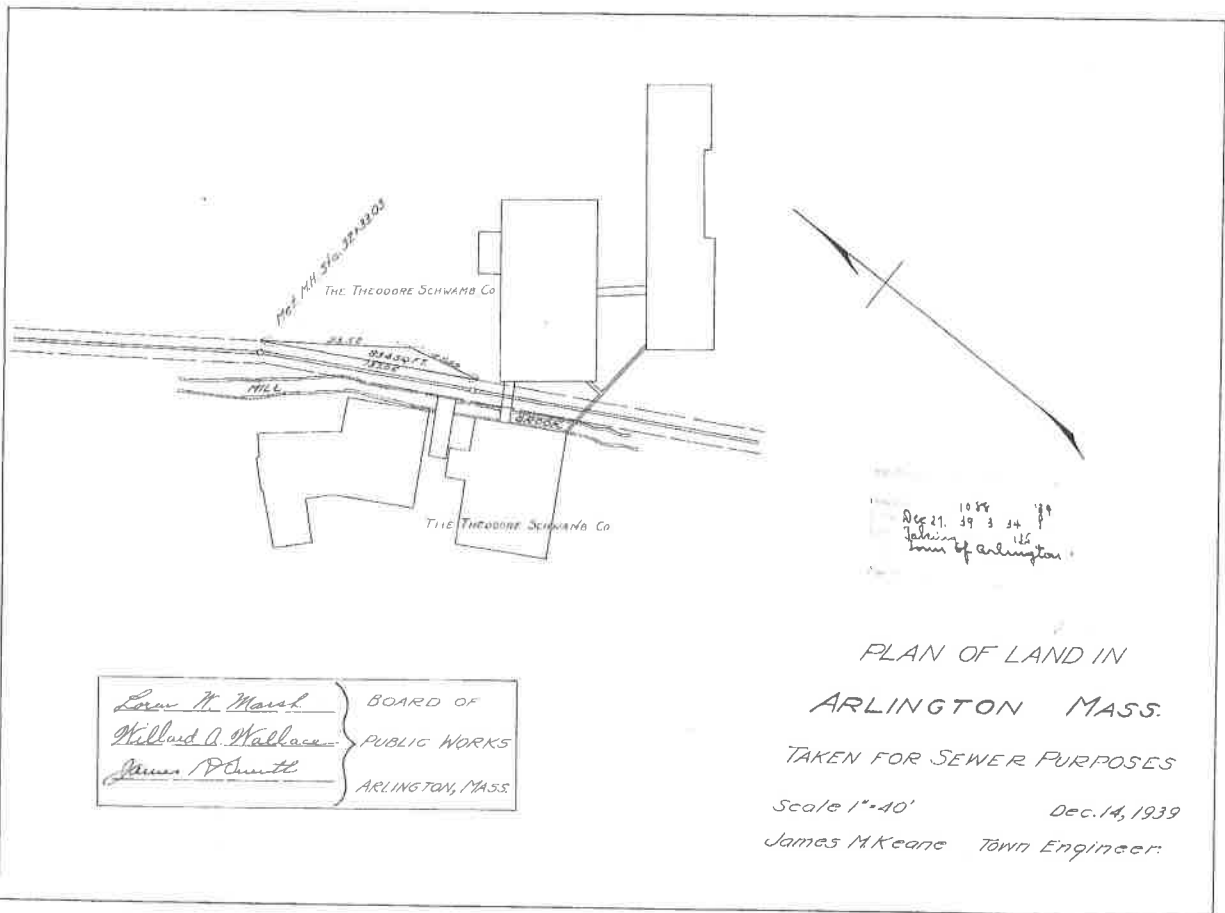
Dec 15 1939
 James M. Keane
 Town Engineer

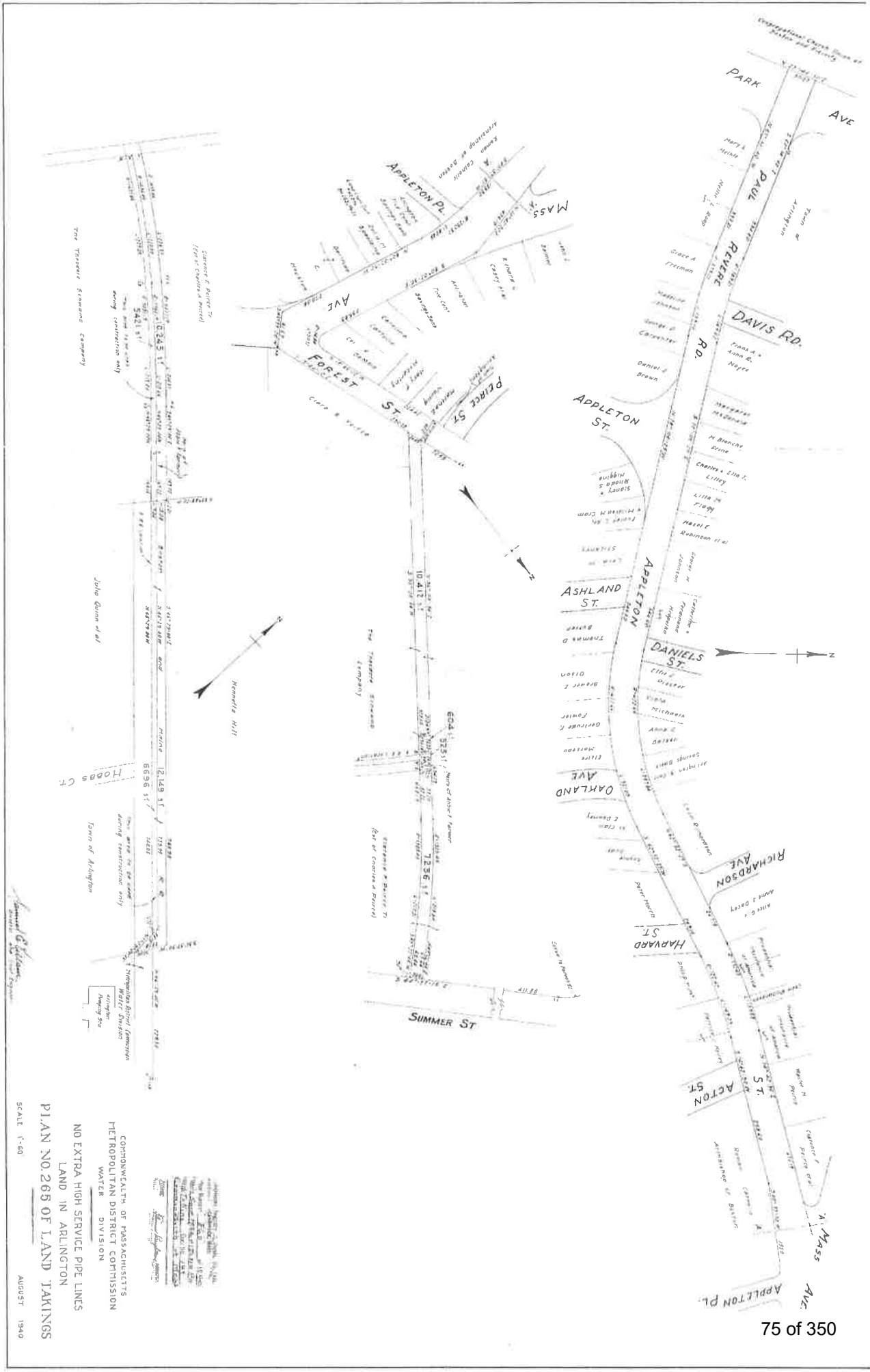
Louis A. Marsh Willard A. Wallace James P. Smith	BOARD OF PUBLIC WORKS ARLINGTON, MASS.
--	--

PLAN OF LAND IN
 ARLINGTON MASS.

TAKEN FOR STORM DRAIN PURPOSES

Scale 1"=40' Dec. 15, 1939
 James M. Keane Town Engineer.





even though they were threatened at times in the years when school divestment was the fashion, the premise being that the school-age population would continue to decline. In 1899 also, Peter Schwamb, a long-time member of the Arlington Water Commission, was, in the words of William Cutter, “instrumental in having the town admitted into the Metropolitan water system.” He remained active at Theodore Schwamb Company and joined in its incorporation as Treasurer in 1897.

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But if he had to choose sawdust, rather than music, nevertheless, he remained a dutiful son and partner in the firm. He was the only son available at that time. When his only brother, Herbert Page, reached maturity 11 years later, he chose to go west to Denver. Within these limitations, Carl and his parents seemed to understand one another. He served as alternate organist, not only at the First Baptist Church where the family worshipped, but at various churches in the Heights and in Lexington. He was pianist for many years for the Sunday school of the First Baptist; and he designed music curriculum for the Arlington schools. Carl William died at the relatively early age, of 57 in 1912; yet for many decades thereafter a harpsichord stood on the third floor of the Mill as a reminder. In gratitude for Carl



In the middle : The Theodore Schwamb house as it looks today, without wrap-around porch. The photo shows the whole ensemble of historic buildings. Right to left: Former Theodore Schwamb Company Mill buildings, 1165-1167 Mass. Avenue (mid-19th/early 20th century) Theodore Schwamb house, 1171 Mass. Ave.; (c. 1845); and the Kimball Farmer house, 1173 Mass Ave. (c. 1828).

William's contributions to the First Baptist Church in Arlington Center, the parish gave him an intricately carved square piano, an instrument which has been lovingly restored in the family of his granddaughter, Dorothy Sweet Fornan, of Macomb, Illinois.

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TEXT VERSION:

THEODORE SCHWAMB & THE ERA OF THE GERMAN MILLS IN ARLINGTON

By Grace Dingee, Mill Historian and Board Member

In 1838, Jacob Schwamb emigrated to Boston from Untenheim, Rhein Hessen, Germany. Jacob was the first of the Schwamb brothers to emigrate to the United States. By 1857, six of the seven Schwamb brothers had emigrated from Rhineland Pfalz to the United States.

In their heyday, nine separate mills, each with one or two backup mill ponds, dotted the Mill Brook Valley along Massachusetts Avenue from East Lexington as far as Mystic Street in Arlington. The water of the Mill Brook was used by each mill wheel in turn, and the water was then passed on to the next. After 1872 the mills were forced to gradually convert to steam when the Arlington Heights residential plan was laid out and the town dug a reservoir on Lowell Street, in anticipation of the professional class expected to populate the Heights. The influx was not realized because a prolonged recession cut demand and the Arlington Land Company went bankrupt within two years. Complaints were also lodged that the water was not clean. In 1898, Arlington applied to join the Metropolitan water system and in 1899, its petition was granted. Thus, the Heights were able to escape the fate of having the waters of the Great Meadows flow into their sinks.

None of this, however, reversed the draining down of the Great Meadows due to the reservoir. Gradually, the mill ponds lost their vital importance, were drained, filled in or left to grass over; and the great era of the mills was over. The last pond to go, Fowle's Pond near Mystic Street, was still visible in about 1955. Luckily, the town was able use the old mill areas for sports playing fields, particularly at the High School and at Buzzell field. Writing in 1924, Jacob Bitzer noted that, of the nine mills, only four were still running. Only two mills were prosperous enough to run full-time. These belonged to the frame maker and grandson of Charles Schwamb, Clinton W. Schwamb, and to the Theodore Schwamb Company, which at this time focused its business on wooden cases for grand pianos. Bucking the trend of the mills to shut down, these two would continue to work profitably for almost another 50 years, until 1969 and 1972, respectively.

When 17-year-old Karl Schwamb came from the southern Rheinland to apprentice at the sawing and wood-turning firm of Paul F. Dodge at 1175 Mass. Avenue, Yankee names dominated the town. There were Lockes, Winships, Robbinses and, above all, Cutters. The mill barns behind the Dodge house were known as the Stephen Cutter Mill, and the site of the new house built by Dodge came from the Cutter heirs. Similarly, if Karl had stayed in his hometown, Uнденheim, he would have belonged to an equally large clan of Schwambs. The Schwambs were as ubiquitous in Uнденheim as the Cutters were in Arlington. What both families shared was energy and a desire to have their own mills.

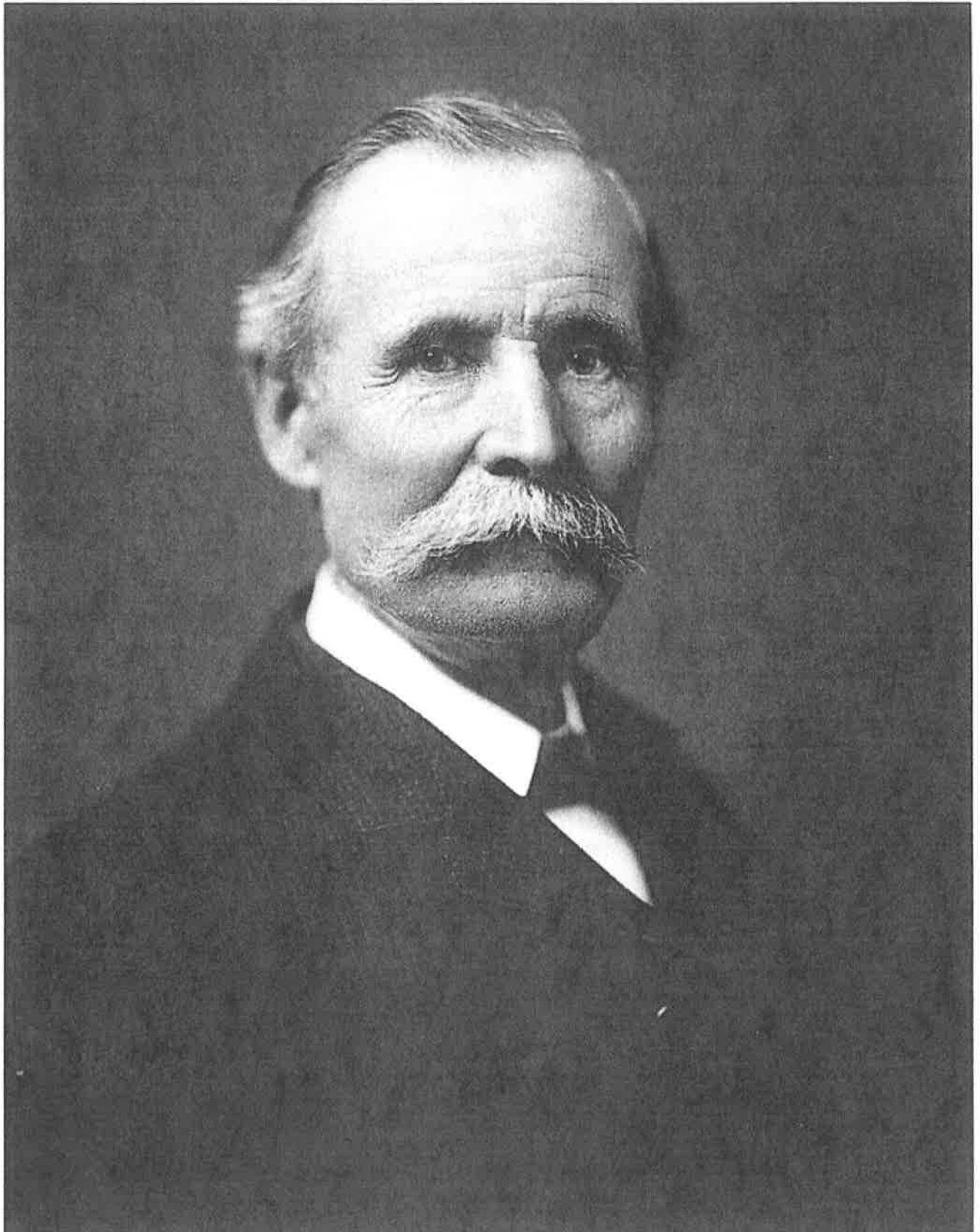
When he took on young Karl Schwamb as an apprentice, Dodge had suffered grievous personal losses: In 1836 he lost a son, age two months. In April, 1838, his wife, Maria Perry, died; and finally, his remaining infant son, age seven months, died in August of 1838. There is evidence that Dodge talked early to Charles about wanting to divest himself of the business. Half a century later, Karl Schwamb, renamed Charles Schwamb, consistently stated in his ads that his firm dated to 1850. This was likely the date when Dodge agreed to divestment. We know that the five Schwamb brothers' collaborative firm at this location began only in 1853, when the eldest brother, Jacob, was the first to join Charles in Arlington after several years of making piano cases for the firm of J.C. Lane in Leominster. Brother Peter had arrived in 1850 at age 20 to apprentice. In 1853, Theodore, then age 21, arrived from the vineyards he had tended for several years at his father's new, enlarged farm and public house in Kongenheim. He joined the elder brothers in a joint venture, which would last nine years until 1862. In 1857 the youngest and

last brother, Frederick, arrived in New York City from Le Havre on the ship, *Princeton*, accompanied by his fiancée, Thekla Breivogel. Five days later Thekla and Frederick were married in the Zion Evangelical Lutheran Church of Boston's South End, an early Greek revival brick building with classic pediment, which Jacob co-founded and helped to dedicate on Christmas Day, 1847.

As the first German to arrive in 1838, Jacob maintained his connection with the Zion Lutheran Church he helped to found, often "supplying the pulpit" himself in the absence of the minister. By 1853, however, he had begun to think better of settling on the scantily filled lands and commercial wharves of narrow Boston Neck. He had already buried two wives due to illness. He had worked in several piano factories in Boston and after 1842 had lived during an unhappy time of recession when his nearest brother, Ludwig, arrived to apprentice in woodworking, was forced to work in a lead-paint factory and fell ill with typhoid fever as well as lead poisoning. After a return to Germany, Ludwig reappeared in Boston in 1849, but passed through quickly, as if shaking the dust of Boston from his feet. He headed west to do what he had always wanted to do, to farm — first in Indiana and later in Missouri.

Perhaps also, Jacob found Leominster too undeveloped for a boy from the Rheinland. His foray there could have influenced his decision to join his brothers at 1171 Massachusetts Avenue in West Cambridge, a name Arlington retained until 1867. This was a proper town, yet with large tracts of undivided land, particularly in the Heights. The terrain was rougher for farming here than on the fertile eastern plain. But it was attractive for residences and businesses. In the coming decades, the Schwambs bought several of these areas from their Yankee owners. Jacob remarried again after two years, in 1855, to Katherine Guething. The couple added five more children to Jacob's previous five; and the good Katherine had the grace to outlive Jacob by six years and, with two of her sons, to continue until her death in 1887 the piano-case and straight-molding business Jacob had established at 1033 Mass. Avenue. The story of Jacob's mill didn't end there either: Jacob's youngest sons, William and Edward, carried on a furniture repairing and refinishing business together at 1033 Massachusetts Avenue until 1903, the year of William's death. As late as 1926, *The Arlington Advocate* reported that Edward Schwamb was still running the furniture refinishing business in the same place. And a jolly side of Edward came out in his obituary in 1946 when he died at 84. He was characterized as a notable musician who led the music program for the town's Centennial Celebration in 1907 and was the leader of the Arlington Zouaves Band. The Zouave soldiers were originally Civil War regiments with colorful costumes meant to resemble Berber tribesmen. Naturally, the story of Jacob's offspring doesn't end with the childless Edward. It is included to show the endurance, even of the least known of the Schwamb Mills, and the love of making music that ran through the German population in general, and the Schwambs in particular.

The business that the brothers started in 1853 was called, "Charles Schwamb and Brothers." This underlined the role of Charles as organizer. Jacob pioneered by scouting territory and pinpointing piano production as a skill with a future: Now Charles saw strength in numbers for the immigrant brothers and launched the enterprise. The location at 1171 Mass. Avenue had an attractive house, two hams and a mill wheel. During the firm's nine years of operation, the younger brothers apprenticed, became journeymen and joined the partnership. After the partnership was dissolved in 1862, the brothers started three separate businesses. Jacob, ever the restless family member, located himself in West Medford to make organ-cases for home use, a product of Mason and Hamlin Company. At the end of his career, Jacob returned to Arlington at 1033 Mass. Avenue where he ran his own mill until his death in 1881.



Theodore Schwamb

Theodore set his course to acquire 1171 Mass Avenue. It is not clear why he first located for a few years at 1093 Mass. Avenue near Hobbs Mill. He was determined to continue in the piano-case business and his eye was on the original location. By 1871 he was back at the Dodge homestead and had also acquired the Stephen Cutter Mill behind the house. Here, the largest of the three German mills in Arlington grew, the firm of Theodore Schwamb Company destined to last one hundred ten years and to remain important as the first and central location. The brothers all worked and lived close to one another for the rest of their lives, lending a hand in crises, and investing heavily in locations near one another in the Heights section of Arlington.

Sometime around 1850, Charles met Jane Sophia Hinton in the Choir of the First Parish Congregational Church (now Unitarian Universalist) in Arlington Center. Jane had been born in Birmingham, England. In 1852, Charles married his Jane and became the only brother to marry a girl with a non-German name. In this large, close-knit German family, one hopes that Jane managed to understand some German. Although Charles continued to walk often to Boston to attend services in German at Zion Lutheran Church in the South End, he was eager to become American as soon as possible; and an English-speaking wife fitted this plan.

A tragic event occurred in the brothers' collaboration in 1858, when a younger brother, Peter, died on March 24. We do not know the cause, but he had married Clara Buecher, an immigrant from Graach, Rheinpreussen, only one year earlier and his first child, Peter, Jr., was only one-and-one-half months old at the time of his father's death, suggesting a sudden and unexpected event.

Two years later, in 1860, Theodore married Peter's widow and adopted Peter, Jr., showing a trait he would carry through his life—the instinct of a good administrator to bring people together for the greater good of the whole. Charles, who was imaginative as an innovator, did not have the same ability to integrate his personnel. In 1864, for instance, Charles and Frederick opened a niche business on Mill Lane just a short distance upstream from the Dodge location. The Woodbridge Spice Mill had come up for sale after a fire. Here Charles and Frederick installed their lathes and introduced a new technology directed at the thriving market clamoring for oval frames: The business was successful, yet Frederick remained only three years, leaving with his wife Thekla Breivogel for New York State, and ultimately for Blue Island, Illinois, a suburb of Chicago. It was as if Charles instilled his spirit of adventure in others, but not in a manner that was to his own advantage.

The new wooden oval lathes offered technology capable of turning out perfect ovals of all sizes in large numbers, requiring skilled workmanship especially in the final contouring with a hand chisel on the double-axis lathe. The whole system was still powered by water. The enormous waterwheel, 18 feet in diameter was partially recessed under the basement floor, allowing for an "overshot" wheel, which channeled the water over the top. This was all going on, right under the feet of the workmen. Accustomed as we are to contemporary power sources, it is hard to believe this sophisticated shaping and carving was still deriving its energy from rough water flowing over a submerged wooden wheel. It had been so for thousands of years. But it seems somehow incongruous in the context of the burgeoning industrial age of the 1860s.

A similar example of Theodore's approach occurred in 1882. A plea came from Peter's nephew, Philip Eberhardt, in Guntersblum, Germany. Philip's mother, Katarina, was Theodore's sister, who died when Philip was only three. Philip suffered abuse from the husband of a kindly aunt, with whom he now lived. He begged his uncle in a letter to be allowed to come to the States. When Philip's ship arrived in New York, he was met by a Geunan customer of Theodore. But when he arrived in Providence on shipboard to Boston and could no longer hear German but only the "barbaric" English, he fell to weeping: "I was the most homesick boy you ever saw," he wrote many years later. "I laid my head on

the rail of the boat and cried my heart out. An old gentleman came and spoke to me but I cried all the harder until a young man who could speak German spoke to me and sort of straightened me out. I could not go into my stateroom but slept in one of the large chairs in the saloon. The next morning I arrived in Boston and was met by my sister and Mrs. Theodore Schwamb. On the following day, June 17th, I went to work and have been working ever since." For the first two years in Arlington, he remembered thinking that he would have returned immediately to Gettysburg if he could have. Nevertheless, he prospered at Theodore Schwamb, becoming superintendent of the entire plant in 1890, and then partner and director of the corporation in 1897. At Peter's retirement in 1924 Philip Eberhardt became president of the Theodore Schwamb Company. He continued to work there, even after the company was bought out by the Nickerson family in 1931, until the onset of his fatal illness shortly before his death in 1938.

Theodore's great talent for attracting and keeping talent was especially strong within his larger family. After Theodore's only son by Clara died at the age of two in 1866, Theodore set his hopes on his adopted son, Peter, Jr. Peter became, one might say, a perfect adopted son. He completed M.I.T. and rose there to become a professor of Mechanical Design and Mill Engineering, and head of the M.I.T. Mechanical Laboratories. Moreover, in Peter, Theodore had a son who could enhance his own profile in civic affairs, particularly in the 1890s, when Peter served on the committees to build two of Arlington's three most beautiful schools, the old High School on Academy Street, now the Senior Center; and the Cutter and Locke schools, placed at strategic intervals along Massachusetts Avenue as far as Park Avenue in the Heights. For the planning of the Locke, Peter was Committee Chairman. Presumably due to the really outstanding aesthetic of their architecture, and their solid construction, these schools were saved from the wrecker's ball and even though they were threatened at times in the years when school divestment was the fashion, the premise being that the school-age population would continue to decline. In 1899 also, Peter Schwamb, a long-time member of the Arlington Water Commission, was, in the words of William Cutter, "instrumental in having the town admitted into the Metropolitan water system." He remained active at Theodore Schwamb Company and joined in its incorporation as Treasurer in 1897. After Theodore's death in 1909, Peter took early retirement from M.I.T. and worked even more closely with the company until his own retirement in 1924.

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contributions to the First Baptist Church in Arlington Center, the parish gave him an intricately carved square piano, an instrument which has been lovingly restored in the family of his granddaughter, Dorothy Sweet Raman, of Macomb, Illinois.

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As the middle class began to upscale its musical tastes in the new century, the vogue for upright pianos gave way to the aspiration for a grand piano. Theodore Schwamb Co. followed the trend, which required not only skill but speed and coordination in gluing veneers to its fine hardwoods. As the new century dawned, however, the first generation seemed suddenly to have grown quite venerable. At Charles Schwamb and Son Co., the heir apparent, Carl William, was on a protracted stay in Denver to improve his health. At the Mill, shop superintendent, John Frederick Bitzer, oldest brother of Jacob Bitzer, carried on as he had for 36 years. One cannot see how much sales work could have been going on.

For Charles, by nature an energetic entrepreneur, looking back from the vantage of 1900 must have been daunting. Of the nine children born to him and to Jane Hinton, seven were dead. Two sons and a daughter died shortly after birth; but the unthinkable happened from 1884 to 1891. His four grown daughters, lovely young women if one may judge from their photos, all died, one after another in successive years. Evidence strongly suggests a family tendency to tuberculosis, though the only written evidence concerns their youngest daughter, Jennie Louise Schwamb Wyman, who had recently given birth to a daughter. Two weakening bouts of pneumonia are mentioned, one before and one after the baby's birth (the baby also died within a few months). When Charles Schwamb died in 1903 at the age of seventy-six, his faithful superintendent, John Frederick Bitzer, resigned immediately and joined his youngest brother, Jacob Bitzer, at Theodore Schwamb, where he remained for the rest of his professional life.

When Carl William returned from Denver he found the mill almost without business and he retired in 1905. This is the point at which the Schwamb energy sprang up again: his two sons, Clinton W., 26, and Louis, 19, suddenly acquired a frantic determination to save their Mill. In 1907, under the new name of "Clinton W. Schwamb and Co.," they hoisted the red, white and blue bunting to the Mill's facade for the Centennial Celebration of the town's independent status. Under the company's name were emblazoned the words, "OLDEST OVAL FRAMEMAKER IN NEW ENGLAND." The firm was old – the partners were young! Clinton and Louis were not shy about invoking antecedents, if it served their purpose. The entrepreneur knows how to pick himself up because risks involve falls, and entrepreneurship is risky. Over years of hard work, Clinton and Louis brought the Mill back to prosperity.

Clinton's son, Elmer Schwamb, was born in 1904. When talking to Patricia Fitzmaurice in earlier years, Elmer remembered how hard his father and uncle worked to save and restore the Mill; and how he himself entered the business in the 1920s, traveling the length the East Coast on sales trips. The Mill stayed profitable and Elmer even added a niche partnership called "Elwayne," involving his son Wayne for the production of specialty frames. In the end, it was the advent of molded plastic and the ever-worsening quality of lumber that forced Elmer Schwamb, after the death of his Uncle Louis, in 1967, and that of Clinton in 1968, to sell what was to become the Old Schwamb Mill.

The buyer had plans to raze the building and blacktop the lot for parking. But luckily Patricia Fitzmaurice, who was already an ardent preservationist, happened by on her bicycle one fall day and learned the plans. She saw the historic exterior, and even more surprising, the incredible array of period tools and machines within. With the help of a small group of concerned Arlingtonians, she started the process that would result in the creation of a working museum, the Old Schwamb Mill, now in operation for 35 years.

Theodore Schwamb died in 1909. The piano-case business began to lag with the increasing interest in recordings, and especially with the advent of the radio in the early 1920s. Peter Schwamb retired in favor of Philip Eberhardt in 1924 and died unexpectedly in 1928 in the midst of his family at his house at 33 Academy Street. When Philip Eberhardt sold the business to the Nickerson family in 1931, the company name of Theodore Schwamb was retained. A decision was made to switch products to high-end architectural woodworking. This was a felicitous decision, given the extensive interior areas available and the skills, particularly of Italian workers, in the area. During the next forty-plus years, the Theodore Schwamb Co. became known nationwide for large projects of interior wood paneling and woodcarving.

Their work included elaborate projects for Yale University in New Haven; for the Tryon Palace at New Bern, North Carolina; for the original John Hancock Building in Boston and at the Harvey Firestone Library at Princeton, N.J. The firm of Cascieri di Biccari (the late Archangelo Cascieri, Dean of the Boston Architectural Center and Adio di Biccari, Arlington sculptor) opened a studio at Theodore Schwamb. Over four decades, this firm produced a wealth of carving and sculpture, including the exquisite Cascieri carvings for Marsh Chapel at Boston University; and the di Biccari sculpture ensemble opposite West Street on the Boston Common. One photo, taken in Arlington at the Schwamb Studio in the 1950s, shows a giant sculpture of St. Clement. The ponderous saint lies prone on a truck, having made it through of the wide doors of the Schwambs' most attractive structure, a small, classic brick building with brick detail, a building still extant today at 1167 behind the old homestead. After arriving safely at his Brighton destination, St. Clement was hoisted to very top of the facade of St. John Seminary.

The fact that such buildings still exist is to the credit of the Mirak family, a long-time Arlington family whose firm has specialized since 1936 in dealerships and service of cars and trucks. Recently, the firm developed a residential complex in Arlington Center called "The Legacy." Robert Mirak recently commented that "when my father, John Mirak, purchased the property in the 1970s, some of his

colleagues suggested tearing down the buildings to make way for another dealership or a major shopping center. My father decided to keep the buildings and used the property to store excess auto inventory. In addition, he liked the looks of the buildings and especially the handsome red brick and the colonial windows. From that time to the present, my father and in succession, the family has upgraded the buildings. Inside, over the decades, we have upgraded floors and brickwork. Specifically, the original wood flooring, which was blackened by use, was cleaned, sanded and urethaned to a handsome finish. Also, a number of walls were sandblasted to remove the paint on the brick; the results were sparkling."

At this Theodore Schwamb complex, it is gratifying to see how many small businesses have found a home: the Image Inn has run a photographic studio there since 1982, specializing in the rare skills and patience required by traditional techniques; the architectural firm of Rovinelli is upstairs at 1167; and there are many individual artists in residence at the large complex at 1165, as well as the new WorkBar, established in 2016.

The Charles Schwamb Mill at 17 Mill Lane did not grow as large as the Theodore Schwamb Company, and it was never as visible, either. But however much the market fluctuated, Charles Schwamb and his descendants never gave up making fine oval frames. Amidst the final commercial years of competition from inferior wood and plastics, the Mill continued this work, as it does today, thanks to the late Patricia Fitzmaurice and her supporters.

In the end, the Old Schwamb Mill can lay claim to having endured, both as living history and as a working Mill. All three brothers, Theodore and Charles and Jacob, could be proud that their generation of immigrants achieved so much that is still treasured in Arlington today.

TIMELINE of the Schwamb Mill & Mill Brook

1630 English Puritan colonists first settled in Cambridge, Massachusetts in 1630 during the thirty years of the Great Migration. They brought with them, from England, the waterpower mill technology that was implemented on Mill Brook in Arlington for 235 years (after which a steam turbine replaced the water wheel). The Mill Brook, which drops more than 150 feet in two miles through Arlington, powered mills of various kinds at seven to nine mill sites. The brook has been called successively Vine Brook, Sucker Brook, and Mill Brook. According to one local historian (Edith Winn), the brook was a "mighty rushing river" at the end of the last ice age.

1637 The first mill on the Brook in Menotomy, or the Northwest Precinct of Cambridge (now Arlington), was the earliest water powered gristmill within the limits of colonial Cambridge. It was financed by Dr. Samuel Read of England and was established in 1637 by Captain George Cooke (b. c. 1610; d. Apr 1652) near the present day location of the Community Safety Building on Mystic Street in Arlington. Cooke's Mill is now commemorated by a park, Cooke's Hollow, and a bronze tablet.

1638 Edward Winship bought a three-acre estate at the easterly corner of Brattle and Mason Streets and extending through the Cambridge Common (in Cambridge). He was a Lieutenant of Militia in 1660, a Selectman for 14 years between 1637 and 1684, and a Representative in the General court for eight years. He died on 2 Dec 1688.

Cooke had sailed for New England in the ship Defence in 1635, at the age of 25. In Massachusetts, on 3 Mar 1636, he was admitted as a freeman. From there he became a representative in its Assembly, and Speaker in 1645. In addition, he had been appointed Captain of the Artillery Company in 1637 and once returned to Boston with nine Indians captured during an "excursion".

1639 The Squaw Sachem (i.e. woman chief) of the Massachuset (<http://dickshovel.com/massa.html>) tribe ceded all the lands of her tribe, excepting her homestead (which was bounded on the east by the Mystic Lakes and on the south by Mill Brook), to the English Puritan settlers of Cambridge, for "twenty and one coates, ninten fathom of wampom, and three bushels of corne". Three epidemics of European diseases and warfare with the Abenaki (<http://www.dickshovel.com/aben.html>) tribe from the north had greatly reduced the number of men in the Massachuset tribe. The survivors were too few to defend their land against the invaders from England and had little choice but to agree to the contract. The Squaw Sachem (whose name is unknown) died in 1658. The exchange of property is illustrated in two local WPA murals: *Purchase of Land from the Indians* by Aidan Lasell Ripley, 1934, in the Winchester MA Public Library, and *Purchase and Use of the Soil* by William A. Palmer, 1938, in the Arlington MA Post Office.

Many of the principal inhabitants of Wexford as well as several hundred females gathered around the great cross in the marketplace of Wexford in the hope that their defenseless condition would move George Cooke and his men to compassion. However, Cooke butchered all of them and filled the marketplace with their blood.

1645 Captain George Cooke abandoned his mill, returned to England, and joined Cromwell's army as Colonel of a regiment of foot soldiers. Puritan "Roundheads" formed the backbone of Cromwell's forces. On 11 Oct 1649, Cooke's regiment captured the town of Wexford (in County Wexford, Ireland). Cooke became governor and "exactd bloody retribution against the defending Irish". Houses and cabins, and stores of livestock and corn were all plundered and burnt. Cooke insisted that this was the only way to subdue the roving parties of Irish, by denying them sustenance and shelter in the region.

Dr. Lynch describes George Cooke, the commander of the Puritans in Wexford, as especially remarkable for his brutality and cruelty. Having given a security to the inhabitants of Wexford that they might reside in their own homes, "Cooke afterwards authorized Captain Bolton, before the extirpation of the stipulated day, to scour that county with his cavalry and plunder it. Then commenced an indiscriminate massacre of men, women, and children, by which not less than four thousand souls, young and old, were atrociously butchered."

In 1652, General Cooke shut up 300 men and many infants in a house in the county of Wexford, and then setting fire to the house, all were burned in the flames. But Captain Gore, one of the officers under Cooke, succeeded in concealing on his horse, under his cloak, a little boy who had escaped out of the house. Cooke, discovering the fact, severely condemned the captain, and returning himself with the boy, hurled him into the flames.

In April 1652, Cooke and his mounted escort had a running fight with the troop of the Irish patriot, Captain Nash, on the road from Gowran to Loughlin. Both Cooke and Captain Nash were found dead after the battle.

Cooke's mill in Menotomy was allowed to decay and eventually crumble away.

1670 Cooke's daughter Mary, then living in England, sold her father's 600-acre farm at Cambridge Farms (now Lexington) as well as the twenty acres of land in Menotomy (now Arlington) to John Rolfe of Nantucket. (Ref. 7, page 235.) Rolfe erected an entirely new waterpowered mill on the old site.

1681 John Rolfe died. His widow, Mary (Scullard) Rolfe, sold a fifth of the Cooke farm at Cambridge Farms, or 120 acres of land. She and her son Moses laid out the second Mill Brook watermill power system of pond, dam, mill, and mill race at what is now Mill Street in Arlington. They first built a dam but then waited several years before completing the entire mill raceway system.

1684 The third watermill power system of ponds, dam, mill, and mill race had been laid out before 1684, and a mill built by David Winship, at the Foot of the Rocks in the Menotomy section of Cambridge. This is the site of the present Old Schwamb Mill.

This third mill privilege, at the Foot of the Rocks, was willed to Joseph Winship (b. 21 Jun 1661; d. 18 Sep 1725; resided in Menotomy) by his father, Lt. Edward Winship, who had also built mills in Lexington at the edge of the Great Meadow. Evidence of a mill pond is still visible as a grassy park near Bow Street.

1688 Lieutenant Edward Winship died on 2 Dec 1688 and left to his son Joseph "a certain gristmill in Cambridge, with all and singular the dam, flooms, mill-pond", etc. This mill was on the site of what is now called The Old Schwamb Mill.

1704 William Cutter built a dam 18 feet high near his home at the present Mill Street, raised the level of the pond, and erected a sawmill.

1714 Moses Rolfe, a son of John Rolfe, sold 130 acres of Cooke's farm to John Cutter (a glazier b.1690), a son of William Cutter.

1718 Moses Rolfe sold 100 acres of the Cooke's Farm to his brother-in-law, William Cutter, husband of Moses Rolfe's sister.

1732 On 27 Dec 1732, the General Court designated the part of Cambridge on the west side of the Menotomy River (now called Alewife Brook) as the Second or Northwest Precinct of Cambridge. This was the beginning of the First Congregational Parish, the parish being simply the precinct in its religious relations.

After several changes of name the First Congregational Parish eventually evolved into the First Parish Unitarian Universalist Church of Arlington.

1775 On the first day of the American Revolution, Paul Revere and the British regulars all passed at a distance of about 200 yards from the Mill at the Foot of the Rocks on their way to Lexington and Concord. The British returned by the same route, fighting their way through Menotomy on their way back to Charlestown.

1807 In 1807, Menotomy (which was officially called the Northwest or Second Parish of Cambridge) became a separate town, West Cambridge.

1808 In 1808, Stephen Cutter constructed another sawmill on the pond at Mill Street.

1827 In 1827, Mary Cutter, the widow of Stephen Cutter, granted land abutting the Mill Pond to the Baptist Society "for the erection of a meeting house with the privilege of using so much of the mill pond as necessary for the ordinance of baptism." Sylvia Brazy was baptized on 3 June 1827.

1838 Jacob Schwamb emigrated to Boston from Untenheim, Rhein Hessen, Germany. Jacob was the first of the Schwamb brothers to immigrate to the United States. By 1857, six of the seven Schwamb brothers had emigrated from Rhineland Pfalz to the United States.

1846 The Lexington and West Cambridge Rail Road commenced service between Bedford, Lexington, Arlington (then called West Cambridge), and Boston.

1847 Charles Schwamb emigrated to Boston from Udenheim, Rhein Hessen, Germany to join his older brother Jacob in the burgeoning Boston piano industry.

1850 Charles and Jacob Schwamb moved to the Dodge Mill (built by Gershom Cutter) on Mill Brook (1167 Massachusetts Avenue) to make piano cases. They were joined by brothers Peter, Theodore, and Frederick.

1853 From 1853 to 1862, Charles, Jacob, Theodore, Peter, and Frederick Schwamb operated a collaborative piano-case business at 1165 Massachusetts Avenue in West Cambridge (now Arlington).

1858 Peter Schwamb died suddenly, leaving a widow and a two-month-old son, Peter Schwamb, Jr.

1860 Theodore Schwamb married the widow of his brother Peter. Theodore adopted Peter Jr. who would become a professor and Director of the Mechanical Laboratory at MIT and Treasurer of the Theodore Schwamb Company at 1165-1171 Massachusetts Avenue in Arlington.

After ownership of the Foot of the Rocks Mill property had descended through many generations, it was acquired by Henry Woodbridge for grinding spices. The mill was severely damaged by fire in 1860.

1861 The Woodbridge Spice Mill at the Foot of the Rocks was rebuilt on the old foundations circa 1861.

1862 Theodore Schwamb founded the Theodore Schwamb Mill to manufacture piano casings. The address later became 1165 Massachusetts Avenue in Arlington, Massachusetts.

Frederick shortly left for Chicago and the lumber business. Frederick and his wife (Thekla Breivogel) were living in New York State in 1871.

1864 Charles Schwamb and his youngest brother, Frederick, acquired the Woodbridge Spice Mill at the Foot of the Rocks. Using skills that they had developed in their native Germany and in their American apprenticeships, they converted the mill to woodworking, especially for making oval frames for portrait photographs. They installed shaft and pulley belt-driven machinery, including German eccentric faceplate lathes and a moulding machine. Four generations of descendants of Charles Schwamb operated the Mill until 1969.

Theodore Schwamb and Peter Schwamb acquired the Dodge Mill. Jacob Schwamb, the oldest of the Schwamb brothers, opened his own piano case business.

1865 The popularity of the oval portrait frame arose just after the Civil War along with the increasing accessibility of photography. Beginning then, the Old Schwamb Mill became the leading maker of hand-turned oval and circular portrait and mirror frames in the United States.

1867 In order to distinguish itself from its parent community and to honor its Civil War heroes, the town changed its name from West Cambridge to Arlington on 30 April 1867.

1869 A new three-story wing was added to the Old Schwamb Mill in 1869 to provide for a four-sided moulding machine on the first floor and finishing rooms above.

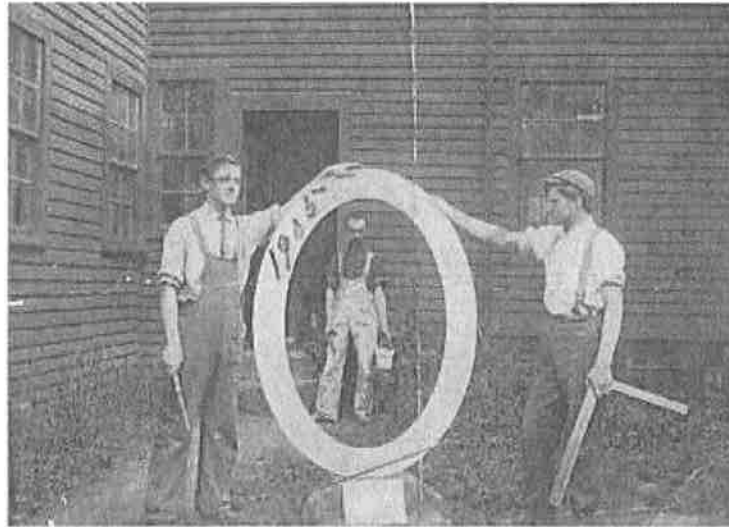
1872 The Town of Arlington took Mill Brook for a public water supply. The Charles Schwamb Mill at the Foot of the Rocks installed a steam engine in the cellar of the barn. A 40-foot-long underground drive shaft transmitted power to the Mill machinery.

1875 Charles's son Carl William (or "Will") was taken into partnership. Carl often played the organ at the First Baptist Church in Arlington. There is a report that Carl was the organist at the Follen Church (Unitarian) in Lexington.

1883 A two-story ell was added to the Mill in 1883 to provide a first-floor office and a shipping room above.

1888 A water turbine was added to the Charles Schwamb Mill at the Foot of the Rocks in 1888 to supplement the existing steam engine power.

1905 Carl's sons Clinton and Louis acquired the Mill property and business, which they named the Clinton W. Schwamb Company.



*In the
photo
above,
Clinton
is on the
left and
Louis is
on the
right. The
date
"1905"
was
written
by pencil
on the
print that
was
scanned,
not
written
on the
actual*

*wooden
frame.*

1922 The Theodore Schwamb Mill included seven buildings and had about 100 employees.

1928 A nephew of Theodore Schwamb assumed ownership of the Theodore Schwamb Mill. He discontinued manufacture of piano casings and began to manufacture architectural woodwork.

1931 The Theodore Schwamb Mill was reorganized by Donald E. Nickerson, Donald A. Davis, and Alvin W. Davis.

1940 The Theodore Schwamb Mill added an ecclesiastical department which included Arcangelo Cascieri as resident sculptor.

1942-1945 For the duration of World War II, the Theodore Schwamb Mill discontinued all civilian work. It produced millwork and cabinet work for military bases, Liberty ships, and PT boats.

1954 The Clinton W. Schwamb Mill installed electric motors and sold its steam engine. The original 19th century shaft and pulley belt-driven system remained in place to transmit power to the individual machines throughout the Mill.

1969 Deaths of Clinton and Louis Schwamb, and the approaching retirement of Clinton's son Elmer, prompted Elmer Schwamb and Louis's widow to enter into a purchase and sale agreement with neighboring lumber terminal truckers to honor Clinton's promise to the truckers to provide additional truck access to their property. The plan of the truckers called for demolition of the three Mill buildings.

The Schwamb Mill Preservation Trust, a nonprofit charitable educational trust, was formed by four Arlington Conservation Commission members:

Patricia C. Fitzmaurice (1923-2001)
Doris Atwater (now Bouwensch)
Rudolph Kass
David D. Wallace

The purpose of the Trust was — and is — to raise funds to save the Mill, to maintain the production of oval frames, and to exhibit the Mill's collections and traditions. This was apparently the first case of grassroots historic industrial preservation in America.

1970 On 16 Jan 1970, the Old Schwamb Mill was acquired by The Schwamb Mill Preservation Trust with contributed funds from two Boston foundations, a Cambridge bank, and several individual donors. The Trust appointed Patricia C. Fitzmaurice as Managing Trustee, a position which she held until her death on 15 Feb 2001.

During the years following the acquisition, frame makers working at the Mill included

- David Graf: Current woodturner
- David Hogan
- Walter Horak
- Ronald J. McLellan (15 May 1924-30 Dec 1995)
- Gordon E. Richardson (10 Aug 1902 — 23 Jan 1990)
- Gordon Whitermore.

After being acquired by the Schwamb Mill Preservation Trust, the Old Schwamb Mill continued to manufacture museum-quality frames but relied on the additional income that it received from donors and appropriate tenants.

In the summer of 1970, the Old Schwamb Mill created a Craft Center which offered 10-week courses in:
Silver Jewelry Making taught by *H. Val Fay*
Printmaking taught by *Anthony Pilla*
Pottery and Ceramics taught by *Nadine Hurst*
Clay Sculpture and Pottery taught by *Lisa McLean*
Furniture Refinishing taught by *Bron M. Warsaskas*
Waste Conversion taught by *Richard Darling*

In the autumn, the Mill added courses in Life Drawing, Water Color Painting, Italic Lettering, Gold Leafing, Furniture Stenciling, Weaving, Leathercraft, and Basic Oil Painting.

Part of the second story of the Mill was rented to The Hart Viol Workshop. The proprietor, Richard Hart, manufactured Viols da Gamba, Vielles, Psalteries, Rebecs, Fiedels, and other Mediterranean and Renaissance string instruments.

Two potteries were started at the Mill: the Barn Potters, Cora Pucci and Kathy Ingoldsby; and the Mill-Race Pottery with Telle Bjork and Nadine Hurst.

1971 The Theodore Schwamb Mill closed. That property was acquired by another immigrant entrepreneur, John P. Mirak, partially for use by his automobile dealership and partially for lease to numerous small businesses.

The Old Schwamb Mill was listed in The National Register of Historic Places by the Secretary of the United States Department of the Interior for the Mill's national historical significance.

1972 The Old Schwamb Mill held its first annual "barn sale." This fundraising event was continued for at least three years.

1975 The Old Schwamb Mill obtained the last remaining timbers from the "Washington Elm" (under which General George Washington assumed command of all colonial troops on 3 July 1775). The Mill manufactured for sale 75 spandrel frames using wood from the Washington Elm. Each frame contained a print showing Washington taking command of the Continental Army.

1976 At the request of the Commandant of the First Naval District, artisans from the Old Schwamb Mill made an oak jewel chest from timbers of the USS Constitution.

J. William Middendorf II, Secretary of the United States Navy, gave the chest to Queen Elizabeth II at the time of her bicentennial visit to Boston.

1979 Shaker Workshops became a tenant of the Old Schwamb Mill in May 1979. They occupied the westerly half of the first floor of the main Mill building.

The Mill offered classes in Design, Advance Calligraphy and Manuscript Illumination, Life Drawing, Painting, Silver Jewelry, Stained Glass, Pottery, Woodworking with Hand Tools, Woodworking in Miniature, and Researching Old Houses.

1981 Artisans of the Old Schwamb Mill produced 13 oval display cases as part of the renovation of the throne room in the Iolani Palace in Hawaii. The cases are being used to display the jewels which kings, queens, and emperors gave to the Hawaiian royalty during their travels covering a period of 15 years. Each case has an oval shape and has a royal crest at the top. The oval cases were carved out of seasoned poplar. The crests were carved out of maple from the town of Wellesley.

1983 In Dec 1983, Shaker Workshops expanded its operations. They established their office in the upper level of the barn and used the lower level of the barn for production. Their showroom remained in the main building of the Mill.

1985 Sometime in 1985, Shaker Workshops moved its production to Fitchburg and expanded its showroom at the Old Schwamb Mill to occupy both floors of the barn. By Jan 1986, they had moved completely out of the main Mill building.

1988 The Massachusetts Historical Commission gave a 25th Anniversary Preservation Award to Patricia C. FitzMaurice for her preservation activities in connection with the Old Schwamb Mill.

2000 On 17 May 2000, Patricia Fitzmaurice received the Ayer Award from the Bay State Historical League for being “a visionary preservationist who recognized the historical and educational value of the Old Schwamb Mill property in Arlington in 1969 and since then has worked tirelessly in leading efforts to fulfill its mission.”

Today The site of The Old Schwamb Mill is now the oldest continuously operating mill site in the United States. The earlier mills are either long gone or no longer operating.

Schwamb frames and mouldings are in every major art museum in the United States and are included in the collections of the White House, the Vatican, Buckingham Palace, the Palace of the Kings of Hawaii, and the collection of Queen Sylvia of Sweden.

[WORDPRESS.COM.](https://oldschwambmill.org/schwamb-family/)



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MEMORANDUM

TO: Conservation Commission,
Emily Sullivan, Environmental Planner and Conservation Agent

FROM: Douglas W. Heim

DATE: September 3, 2020

RE: **Rivers Protection Act “Historic Mill Complexes” Exemption Standard**

Members of the Conservation Commission, I write at the request of the Chair to provide a basic overview of the “historic mill complex” exemption to Rivers Protection Act regulations, and to attempt to clarify the standards for reviewing the pending application for same relative to 1165R Massachusetts Ave.

G.L. c. 131 sec. 40: Massachusetts Rivers Protection Act Overview

The general purpose of the Rivers Protection Act, which is complimentary to the Wetlands Protection Act, is to preserve the natural integrity of rivers and adjacent land for the important values these areas provide within a wetland resource area known as the “Riverfront Area.”¹ In Arlington, the Riverfront Area is defined as 200 feet on either side of a perennial rivers and streams.

¹ As the Commission knows, the Rivers Protection Act considers the same categories of issues as the Wetlands Protection Act: protection of private or public water supply, protection of groundwater, flood control, prevention of

Historic Mill Complex Exemption

In recognition of the ways in which rivers were altered by historic uses of river mills throughout the Commonwealth, the Rivers Protection Act provides in relevant part:

*The riverfront area **shall not include land now or formerly associated with historic mill complexes** including, but not limited to, the mill complexes in the Cities of Holyoke, Taunton, Fitchburg, Haverhill, Methuen and Medford **in existence prior to nineteen hundred and forty-six and situated landward of the waterside facade of a retaining wall, building, sluiceway, or other structure existing on the effective date of this act.***

G.L. c. 131 sec. 40 (emphasis added).

However, the statute itself provides no further definition or guidance as to what constitutes a “historic mill complex” or how the exemption should be examined. 310 C.M.R. 10.04 offers some further definition as follows:

Historic Mill Complex means the mill complexes in, but not limited to, Holyoke, Taunton, Fitchburg, Haverhill, Methuen, and Medford in existence prior to 1946 and situated landward of the waterside facade of a retaining wall, building, sluiceway, or other structure existing on August 7, 1996. An historic mill complex also means any historic mill included on the Massachusetts Register of Historic Places. An historic mill complex includes only the footprint of the area that is or was occupied by interrelated buildings (manufacturing buildings, housing, utilities, parking areas, and driveways) constructed before and existing after 1946, used for any type of manufacturing or mechanical processing and including associated structures to provide water for processing, to generate water power, or for water transportation.

In one of the few matters further interpreting the definition of “historic mill complexes” a Department of Environmental Protection Presiding Officer held the exemption to apply to those historic mill complexes (and interrelated infrastructure) in existence before 1946 and until at least August 7, 1996. *In the Matter of 104 Stony Brook, LLC*, OADR Docket No. WET-2017-021, Weston, 25 DEPR 120 (2018).

Finally, it should be understood that the exemption afforded to historic mill complexes only applies to the Rivers Protection Act. It does not apply to the Wetlands Protection Act, state and local requirements for historic structures, or the Town Wetlands Bylaw.

storm damage, prevention of pollution, protection of land containing shellfish, protection of wildlife habitat, and protection of fisheries.

Standard for Exemption

In sum, based on the foregoing, the petitioner must provide evidence that the entirety of the area for which a waiver is sought was developed and used as a mill complex, including interrelated buildings, parking areas, driveways and similar infrastructure before 1946, and which remained in existence until at least August 7, 1996. They need not establish that the entire area was encompassed by the footprint of a building or specifically a “mill,” or even that buildings and/or relevant related infrastructure stands as to today. Rather, there must be sufficient evidence that the site’s buildings and related infrastructure served the purposes of working mills prior to 1946, which remained until at least the date of the passage of the Rivers Protection Act.

As a guidepost, the Hearing Officer in the 104 *Stony Brook* matter noted that the only evidence of mill use for the site at issue in that matter was the foundation of building which may have been used to house mill employees outside of the protected area. However in any event, that structure was demolished in the 1960s, which signified that no structures or infrastructure from what may have once been a historic mill complex existed within the riverfront area. Therefore, the obvious purpose of the exemption – recognition of the dramatic impact historic mills have on the riverfront areas – was moot, and had been for decades before the Act was passed.

While the facts of *Stony Brook* stand in dramatic contrast to the facts of the application before the Commission here, it is still essential that the Commission is satisfied that the mill complex and all of its related site area within the resource area was built before 1946, and remained until at least August of 1996.

It is essential to note that the 104 *Stony Brook* matter does not hold that a mill complex must be in *active* use as a mill until August of 1996, by which time many if not most of the mills in Medford, Methuen, Lawrence, and the other specific municipalities listed in would have long been shuttered for mill purposes. Rather, the common sense interpretation reflected in *Stony Brook* demonstrates that the concern of the exemption is the appropriateness of applying a second layer of riverfront regulation to sites in which the riverfront was dramatically engineered and altered for mill purposes.

Based on cursory review of other municipalities’ examination of exemption applications, in addition to the literature and supporting materials already provided by the Applicant, some of means of demonstrating the applicability of the exemption could be to search Massachusetts Historical Commission databases such as MACRIS, and consulting Town bodies, historical societies and resources to understand the scope of the historic use of the mill property and its related structures, and areas leading up to the Mill Brook.

Thank you for your consideration of the foregoing. Please advise me if I may be of further assistance on this or any other matter.

KRATTENMAKER O'CONNOR & INGBER P.C.

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September 10, 2020

CHARLES G. KRATTENMAKER, JR.
MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

VIA EMAIL

Susan Chapnick, Chairperson
Conservation Commission for the
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

Re: Request for Determination of Applicability – 1165-1167 Massachusetts Avenue,
and 0 Ryder Street, Arlington, MA (hereinafter referred to as the “RDA” and the
“Property”, respectively)

Dear Chairperson Chapnick:

This office represents 1165R Mass MA Property, LLC (the “Applicant”), in connection with the development of the Property pursuant to the Comprehensive Permit Regulations, so-called.

I write to follow up on the matters raised at the September 3, 2020 meeting of the Commission as to the Applicant’s RDA requests. Those requests include the following:

- ***Whether the Property constitutes an “Historic Mill Complex” as defined under 310 CMR 10.04, the Massachusetts Wetlands Protection Act.***

As Attorney Douglas Heim, Town Counsel for the Town of Arlington, opines in his September 3, 2020 memorandum to the Commission on the River Protection Act “Historic Mill Complex” exemption standard, the Applicant: (a) must provide evidence that “the area at issue was developed and used as a mill complex, including interrelated buildings, parking areas, driveways and similar infrastructure before 1946”; (b) “need not establish that the entire area was encompassed by the footprint of a building or specifically a ‘mill’, but rather there must be sufficient evidence that the site’s buildings and related infrastructure served the purposes of working mills prior to 1946”; and (c) must establish that “the mill complex and all its related site area within the resource area . . . remained until at least August of 1996.”

Town counsel specifically notes that the mill complex need not be in “active use as a mill until August of 1996”. In support of this conclusion, he cites the language of the regulation and notes that the mills in many of the cities and towns specifically referenced in 310 CMR 10.04 “would have long been shuttered for mill purposes.” Thus, the only logical conclusion is that the mills need only have been working mills until 1946, so long as the buildings themselves have remained as of August, 1996.

KRATTENMAKER O'CONNOR & INGBER P.C.

Susan Chapnick, Chairperson
September 10, 2020
Page 2

It is uncontroverted that the Property contained working mills prior to 1946. Documentation establishes the following:

- 1807 – Mill buildings were erected for turning and grinding edge tools by Gersham Cutter. Paul Dodge acquired the mills and subsequently sold the mills to Charles Schwamb, Dodge's apprentice, in 1848.
- 1850 – Charles and Jacob Schwamb moved their business operation to 1167 Massachusetts Avenue, formerly called the Dodge Mill, to make piano cases.
- 1853 – Charles and Jacob Schwamb were joined by Theodore, Peter and Frederick Schwamb, who operated a collaborative piano case business at 1165 Massachusetts Avenue.
- 1897 – The business was incorporated as the "Theodore Schwamb Company".
- 1905 – the Theodore Schwamb Company erected another four-story brick mill building to meet increased demand for piano cases.
- Around the 1920's with the popularity of the radio and the decrease in piano sales, the Theodore Schwamb Company in 1928 turned to another kind of manufacturing work, specifically "Architectural Woodwork". This included the manufacturing on the Property of door frames, baseboards and all other kinds of finished woodwork for homes and buildings.
- In 1931, the Theodore Schwamb Company was sold to the Nickerson Family, which continued the architectural woodworking business on the Property.
- In 1942, the Theodore Schwamb mill discontinued civilian work and during the period 1942-1945, the duration of World War II, produced mill work and cabinet work for military bases, Liberty ships and PT boats. After World War II ended, the company resumed its civilian architectural woodworking business.
- In 1971, the Theodore Schwamb mill closed its manufacturing operations and was purchased by John Mirak, the grandfather of Julia Mirak Kew, whose family continues to own the property.

Also enclosed is a plan dated July 16, 1956, titled "The Theodore Schwamb Co., Inc.", which likewise definitely establishes the mill use subsequent to 1946.

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Susan Chapnick, Chairperson
September 10, 2020
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- *Whether the mill buildings utilized by the Schwamb family for their manufacturing business continued to exist on the Property as of August, 1996.*

The redevelopment proposed intends to: (a) retain and repurpose as housing the four-story mill building built in 1905; and (b) retain and repurpose for amenities space the one-story concrete and brick building, formerly the Engine Room built in 1906.

As detailed above, there is ample evidence to establish that the Property housed a "Historic Mill Complex" as defined in 310 CMR 10.04. Further, though the Applicant need only establish that the Property was a functioning mill through 1946, the Applicant has provided sufficient evidence to establish the Property was used for manufacturing until 1971.

A site visit and the photographs provided clearly establish that "the mill complex and all of its related site area within the resource area . . . remained until at least August of 1996." In fact, it remains to date. In her article, "Theodore Schwamb and the Era of the German Mills in Arlington, Arlington resident Grace Dingee, mill historian and a member of the Schwamb Mill Preservation Trust, notes, "[t]he fact that such buildings (at 1165-1167 Massachusetts Avenue) still exist is to the credit of the Mirak family . . ."

The attached documents: (a) information obtained from the Massachusetts Cultural Resource Information System; (b) information as to the Theodore Schwamb mill; (c) the above-referenced article by Grace Dingee, mill historian and member of the Schwamb Mill Preservation Trust; and (d) a photograph from the above-referenced article by Ms. Dingee, establish that the former Theodore Schwamb Company included both 1165 and 1167 Massachusetts Avenue and support an RDA that the Property constitutes a Historic Mill Complex.

- *What land is to be included in the footprint of the "Historic Mill Complex".*

Bohler Engineering has marked up the plan to show the Property to be utilized for the proposed development. The plan indicates in red the areas the applicant maintains is as a matter of fact and law part of the Historic Mill Complex.

A suggestion has been made that a 1923 map which is undated, unrecorded and not stamped, establishes that the parking field could not have been utilized in connection with the mill use because Mill Brook split the area in question. That map is not dispositive of the issue.

With respect to the comment made that the parking field could not have been used in connection with the mill activities because the 1923 map shows the Mill Brook being split with an island in its center, the Applicant has found several subsequent plans, which were prepared by surveyors and recorded with the Middlesex South Registry of Deeds, which clearly establish that

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Page 4

even if the 1923 map were accurate, the condition (Mill Brook being split by an island), did not exist after 1927.

In the attached 1927 plan, Mill Brook is neither split nor is there an island on the plan. There is an obvious easement, perhaps a sewer easement, running on the north side of the Mill Brook. There also appears to be an entrance off what is now Ryder Street toward the mill complex.

The 1939 plan, which is attached, is not dispositive on this issue as the plan does not show Mill Brook to Ryder Street. The 1939 plan does clearly show the mill complex buildings and sewer easement.

The attached plan dated September 13, 1945 is critical in defining what the Applicant respectfully suggests the Commission may rely on to determine the footprint of the Historic Mill Complex. The plan shows the property line extending out to Ryder Street, which is clearly a driveway entrance to the mill complex. As such, it is to be considered interrelated to the mill use. Of importance, the plan shows the "Mill Brook Conduit" which is confined by stone walls as it still is today. The Applicant states that this is clear and definitive proof of Mill Brook's extent just before 1946 and clearly evidences the fact that Mill Brook was not split with an island in its center.

The Applicant states that based on the irrefutable evidence, even if Mill Brook was "split" as of 1923, as of September 13, 1945, and likely as of 1927, it was manipulated into its present "armored stone wall" configuration.

The enclosed current plan prepared by the Applicant's site civil engineer, Bohler Engineering, distinguishes the areas the Applicant asserts are part of the Historic Mill Complex (area in red) from area the Applicant believes is not included in the Historic Mill Complex as defined in the regulation (area in green).¹

Accordingly, the Applicant requests that the Commission act favorably on the pending RDAs.

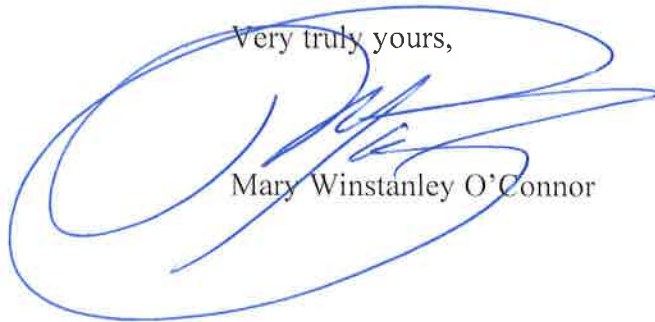
¹ The small area referred to as lot 8D or "0 Ryder Street" on the 2019 plan enclosed was initially part of the overall mill lot. Some years after the acquisition of the property by John Mirak, the area was divided and deeded to the neighboring landowner, who subsequently deeded it back to the Applicant. Given its location, directly abutting Mill Brook and the rear mill building (see plan 110 of 2019 enclosed), this area clearly was associated with the Historic Mill Complex use.

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September 10, 2020
Page 5

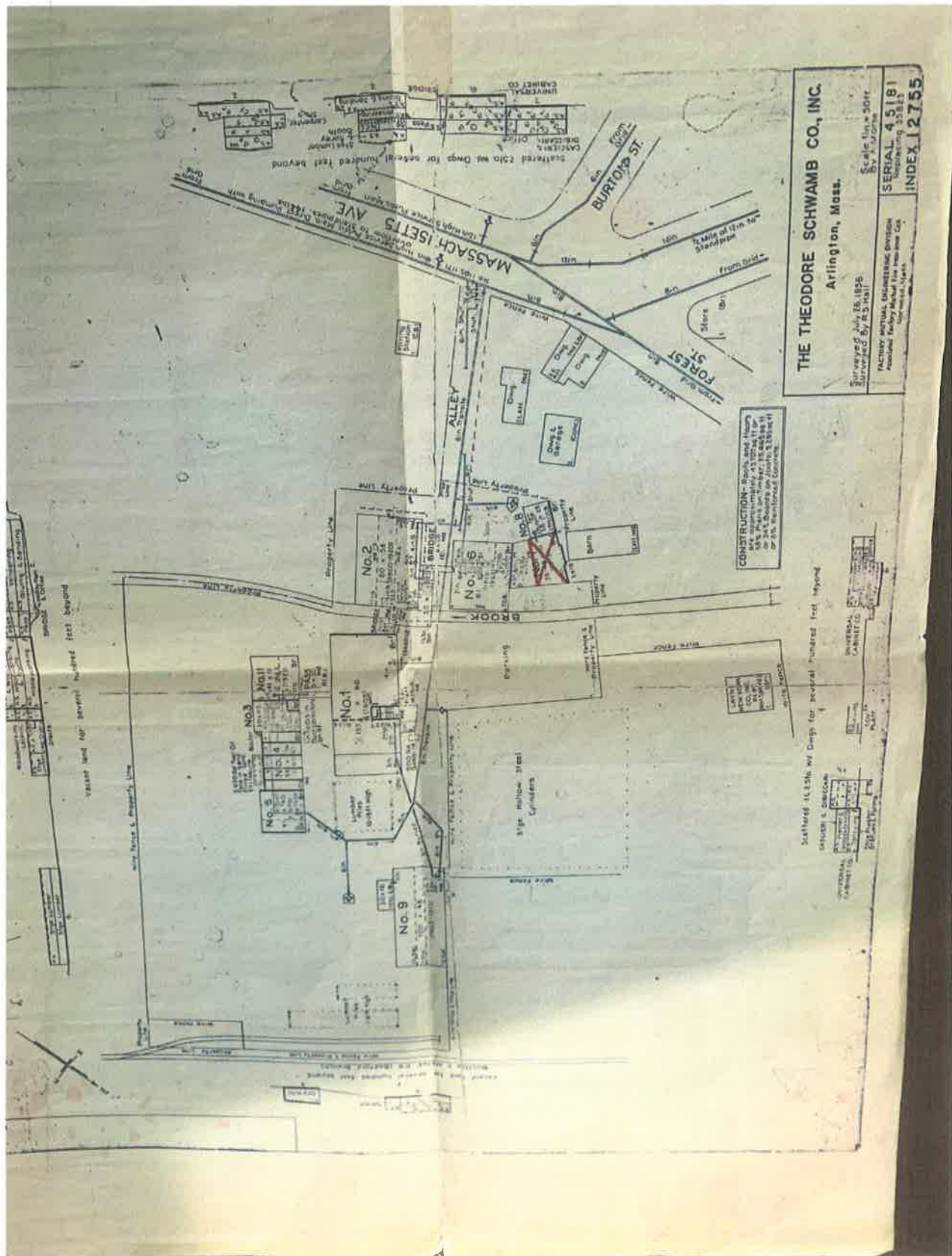
In advance, I thank you.

Very truly yours,

A large, stylized handwritten signature in blue ink, consisting of several loops and a long horizontal stroke, positioned over the typed name.

Mary Winstanley O'Connor

MWO/ccg
Enclosures
6926



Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No: ARL.621
Historic Name: Schwamb, Theodore Piano Manufacturing Company
Common Name: Arlington Center Garage and Service Warehouse
Address: 1165 Massachusetts Ave

City/Town: Arlington
Village/Neighborhood: Arlington Heights
Local No: 319, 546
Year Constructed: r 1905
Architect(s):
Architectural Style(s): No style
Use(s): Abandoned or Vacant; Furniture Factory; Industrial Complex or District; Other Industrial; Warehouse
Significance: Architecture; Industry
Area(s):
Designation(s):
Building Materials(s): Wall: Aluminum Siding; Brick; Wood



The Massachusetts Historical Commission (MHC) has converted this paper record to digital format as part of ongoing projects to scan records of the Inventory of Historic Assets of the Commonwealth and National Register of Historic Places nominations for Massachusetts. Efforts are ongoing and not all inventory or National Register records related to this resource may be available in digital format at this time.

The MACRIS database and scanned files are highly dynamic; new information is added daily and both database records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

Users of this digital material acknowledge that they have read and understood the MACRIS Information and Disclaimer (<http://mhc-macris.net/macrisdisclaimer.htm>)

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Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

This file was accessed on: Thursday, September 3, 2020 at 2:34: PM

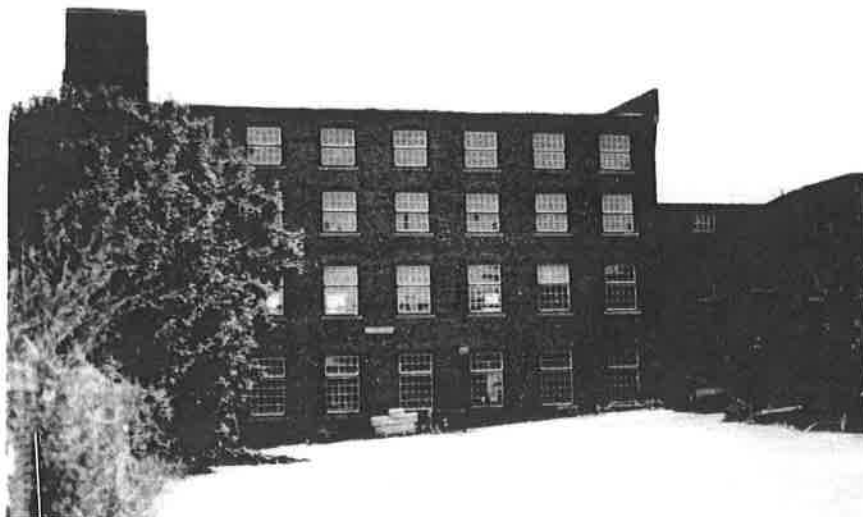
FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, State House, Boston

In Area no.

Form no.

317



Town Arlington

Address 1165 Massachusetts Avenue

Name Theodore Schwank Co.

Present use None at present, but car lot surrounds most of building

Present owner John Mirak

Description:

Date 1905 - latest + largest wing original date not known yet.

Source Story of Arlington Source Material

Style _____

Architect _____

Exterior wall fabric brick/red aluminum siding

Outbuildings (describe) _____

Other features _____

Altered _____ Date _____

Moved _____ Date _____

5. Lot size:

One acre or less _____ Over one acre ☒

Approximate frontage 16' (right of way)

Approximate distance of building from street

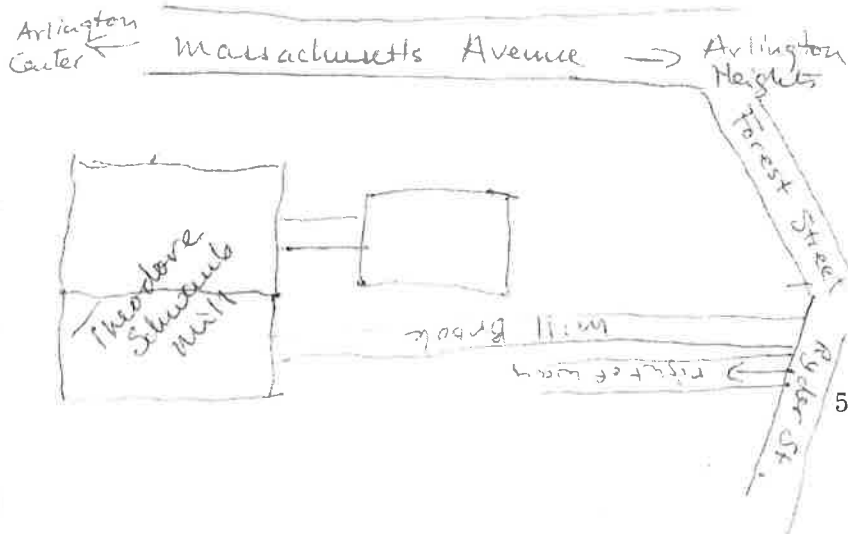
170'

6. Recorded by John Herzan

Organization Arlington Hist. Commission

Date June 5, 1973

4. Map. Draw sketch of building location in relation to nearest cross streets and other buildings. Indicate north.



DO NOT WRITE IN THIS SPACE
USGS Quadrant _____

MHC Photo no. _____

(over)

JUN 27 1973

103 of 350

7. Original owner (if known) probably Gershon Cutter

Original use turning and grinding edge tools

Subsequent uses (if any) and dates _____

8. Themes (check as many as applicable)

Aboriginal	_____	Conservation	_____	Recreation	_____
Agricultural	_____	Education	_____	Religion	_____
Architectural	<input checked="" type="checkbox"/>	Exploration/	_____	Science/	_____
The Arts	_____	settlement	_____	invention	_____
Commerce	_____	Industry	<input checked="" type="checkbox"/>	Social/	_____
Communication	_____	Military	_____	humanitarian	_____
Community development	_____	Political	_____	Transportation	_____

9. Historical significance (include explanation of themes checked above)

See attachments.

10. Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)

Story of Arlington, Source Material, Arlington Public Schools
 1940. " "
 1959. " "

Theodore Schwamb Company

Gershom Cutter, who died in 1807, probably erected a mill on this privilege for turning and grinding edge tools, where his son Aaron Cutter had a mill previous to 1817. Jefferson Cutter, son of Aaron, a wood-turner, operated this mill for years. The next owner was Paul Dodge.

In 1848 Charles Schwamb came to this town and apprenticed himself to Paul F. Dodge. Later he went into business with Mr. Dodge. Two years later Peter Schwamb arrived and learned his trade of his brother Charles and Mr. Dodge. In 1853 Theodore and Jacob Schwamb entered into the partnership. In 1858 Frederick arrived and joined his brothers. This partnership dissolved in 1862.

Theodore Schwamb purchased the so-called Stephen Cutter mill buildings in 1871 and began the manufacture of piano cases. His business consisted of the manufacture of high grade pianos only, and therefore acquired a reputation of reliable and honest work. In 1885 the upright piano began to supersede the square so Mr. Schwamb installed machinery to enable him to produce cases in great numbers.

In 1897 the business was incorporated as the Theodore Schwamb Company with Theodore Schwamb as President, his son, Peter, Treasurer, and his nephew, Philip Eberhardt, Superintendent. In 1905 in order to meet demands of increased business the company erected a modern four-story brick building. A few years later the company gradually gave up the manufacture of upright cases and made an increasing number of grand cases. In the early days most of the employees were German cabinet makers. The company holds the remarkable record, in that since its incorporation it has never had a strike or shut-down on account of labor questions.

Theodore, Peter Schwamb and Philip Eberhardt are all dead and the mill has been divided into several small establishments although the estate of Philip Eberhardt still runs a section of the plant under the old name, Theodore Schwamb Company.

Charles Schwamb's Mill

In 1865 Charles and Frederick Schwamb purchased the Woodbridge Spice Mill on Lowell Street and began the manufacture of black walnut oval picture frames. Later Frederick moved to Chicago and Charles continued alone. Some years later Carl William joined his father in conducting the business and the name changed to Charles Schwamb and Son. This firm was well known throughout the country as reliable manufacturers of oval picture frames. The business became a very prosperous one, and these frames could be found in almost every American home.

About 1879 the use of oval frames went out of style and the square frames were used almost exclusively. Charles Schwamb then began the manufacture of straight mouldings and square frames. For a short time he turned out the mill work for the piano case business conducted by William P. Schwamb, son of Jacob. After the death of Charles in 1903 the business was conducted by his son, Carl William, and later taken over by his two sons, Clinton W. and Louis H. Schwamb

men and brought wealth to the town. Finally in 1885, the factory closed. All of the equipment was sold and moved away. More and more it seemed as though Arlington was not to be a manufacturing town.

Theodore Schwamb Company

There were five Schwamb brothers who came to this country from Germany.

In 1848 Charles Schwamb came to this town and apprenticed himself to Paul F. Dodge who was a wood-turner. He went into business with Mr. Dodge. Years later Peter Schwamb arrived and learned his trade with his brother Charles and Mr. Dodge. In 1853 Theodore and Jacob Schwamb entered into the partnership. In 1858 Frederick arrived and joined his brothers. This partnership dissolved in 1862. In this year Theodore Schwamb began the manufacture of piano cases.

At first these cases were for the square pianos used in those days. Later the upright piano became popular, and so Mr. Schwamb had to install machinery to make these in great numbers.

In 1897 the business was known as the Theodore Schwamb Company with Theodore Schwamb as President, his son, Peter, Treasurer, and his nephew, Philip Eberhardt, Superintendent. In 1905 in order to meet demands of increased business the company erected a modern four-story brick building. A few years later the company gradually gave up the manufacture of upright cases and made only grand piano cases. In the early days most of the employees were German cabinet makers.

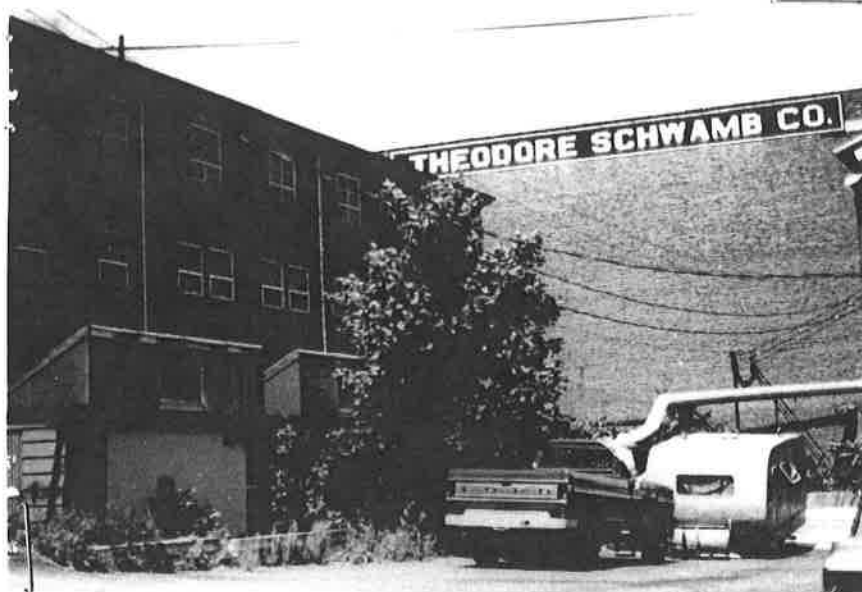
Around 1920, radios began to be very popular. As more and more of them were brought into the homes, fewer pianos were bought by families. For a time, the pianocase business was at a stand-still.

It was during these years that the Theodore Schwamb Company turned to another kind of wood-work called Architectural Woodwork. This means the door frames, base-boards, and all other kinds of finished woodwork in homes and buildings. As a matter of fact the woodwork at the Brackett School and High School was

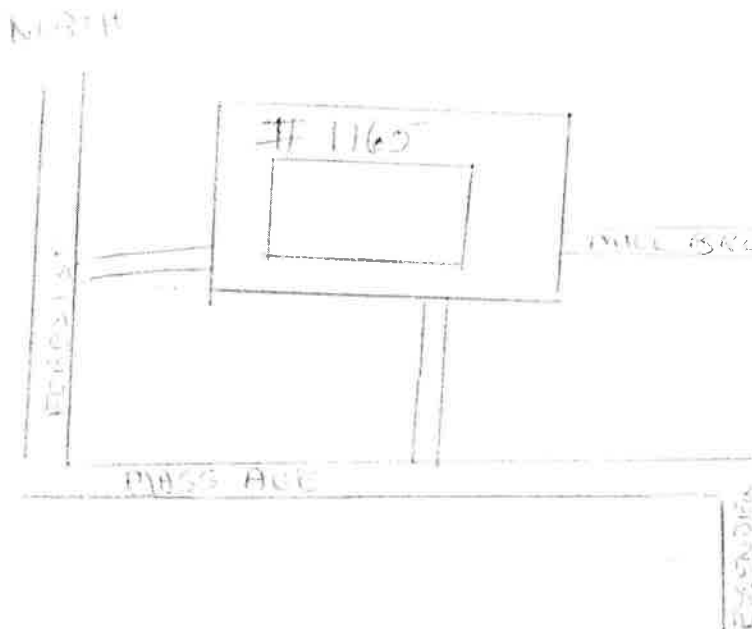
FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION
204 Washington Street Boston MA 02108

Area	Form no.
	546



Draw map showing property's location in relation to nearest cross streets and other buildings or geographical features. Indicate north.



Recorded by P. & D. Hagar; M. Cohn
Organization Arl. Hist. Comm.
Date 1980

Arlington

1165 Massachusetts Avenue

ic Name Theodore Schwamb Co.

iginal Factory

resent Storage

hip: ☒ Private individual

Private organization

Public

iginal owner Th. Schwamb Co.

DESCRIPTION:

Date 19th century

Source Parker's History of Arlington

Style Factory

Architect

Exterior wall fabric Brick

Outbuildings None

Major alterations (with dates) 20th century additions.

Moved No Date

Approx. acreage 22,572

Setting Commercial

ARCHITECTURAL SIGNIFICANCE (describe important architectural features and evaluate in terms of other buildings within community)

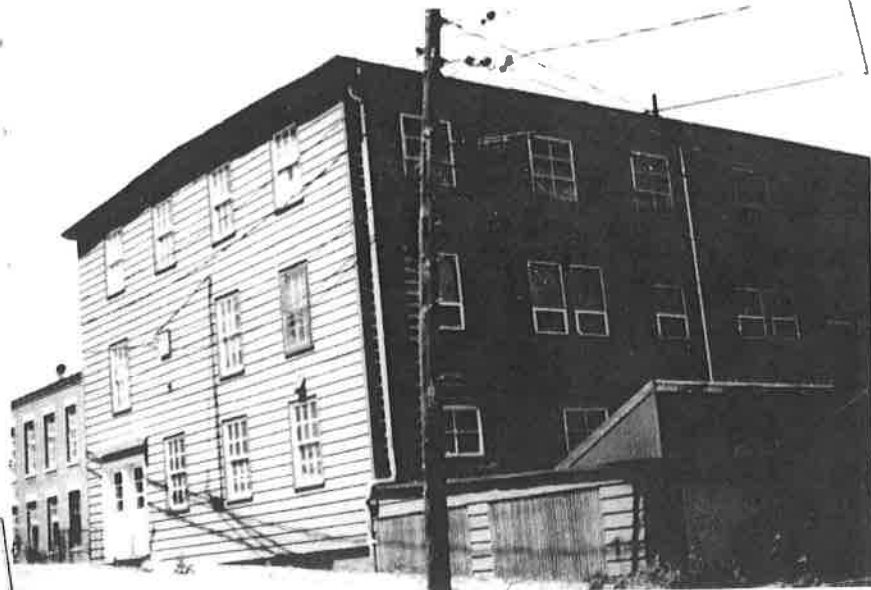
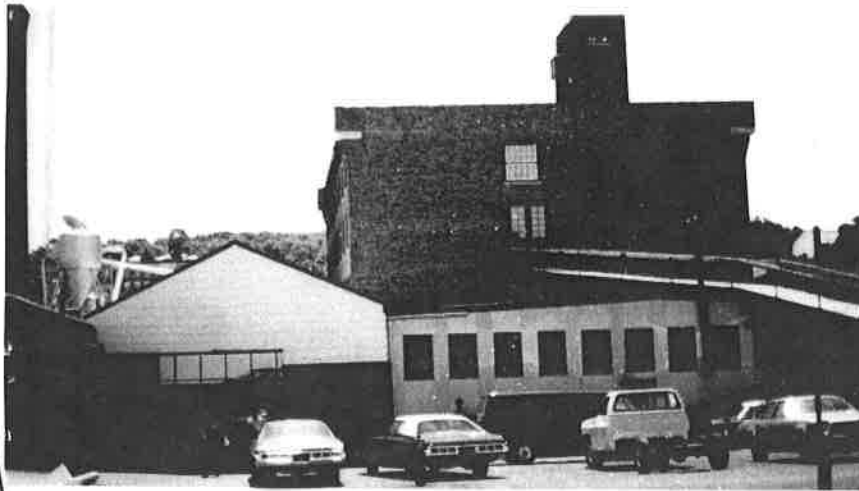
This large complex of well-built and carefully maintained mill buildings remains suitable for commercial or civic uses, although it is at present vacant or leased in small portions for business uses. Mills have stood at this site on the brook from the late 18th c.

HISTORICAL SIGNIFICANCE (explain the role owners played in local or state history and how the building relates to the development of the community)

BIBLIOGRAPHY and/or REFERENCES

Parker's History of Arlington

ASSESSORS RECORDS



THEODORE SCHWAMB MILL

Theodore Schwamb (1832-1902) immigrated to West Cambridge in 1853 to join his four brothers in the Paul Dodge woodworking mill. After Charles and Frederick left Dodge to form their own picture frame company, Theodore expanded his piano forte case business elsewhere along Mill Brook before buying the Dodge mill in 1871. Over the next three decades, his company added a railway siding, wood kiln, steam boiler, bridge and brick factory buildings, some of which still exist on the property. The Theodore Schwamb Company was incorporated in 1897, employed nearly 100 workers from many countries, and was one of Arlington's biggest concerns.

Theodore's son, Peter Schwamb, an MIT professor and director of the company, died in 1928, bringing an end to Schwamb family ownership. The Nickerson family acquired the Theodore Schwamb Company and operated it under the same name. They converted the factory from piano case making to the creation of interior woodwork for large buildings such as churches. The well-known firm of Cascieri di Biccari, specializing in wood carving, also operated from these buildings.

1800 Gershom Cutter IV builds a mill for grinding edge tools.

1830s Paul F. Dodge buys the mill and begins a business in wood-turning, sawing and piano hardware.

1848 Charles Schwamb begins his career in woodworking and soon enters into business with Paul Dodge. Over the next ten years, brothers Theodore, Peter, Jacob and Frederick Schwamb enter the partnership.

1871 Theodore Schwamb buys the Paul Dodge mill and expands the plant and workforce for his successful piano case business.

1931 The Theodore Schwamb Company is sold to the Nickerson family, and Cascieri di Biccari wood carvers rent some of the space.

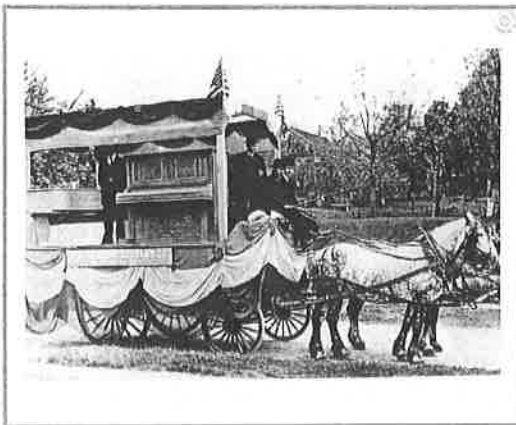
1972 The woodworking business at the mill is closed, and the site is acquired by John P. Mirak, who maintains and rehabilitates the former mill structures.

2018 Mirak Innovation Park (rental space for artists and small businesses)



Theodore Schwamb

Courtesy of the Schwamb Mill Preservation Trust, Inc.



Pianos of the Theodore Schwamb Company on display during Arlington's Centennial Parade in 1907.

*Arlington Historical Photograph Collection.
Courtesy of Arlington Historical Society.*

TEXT VERSION:

THEODORE SCHWAMB & THE ERA OF THE GERMAN MILLS IN ARLINGTON*By Grace Dingee, Mill Historian and Board Member*

In 1838, Jacob Schwamb emigrated to Boston from Untenheim, Rhein Hessen, Germany. Jacob was the first of the Schwamb brothers to emigrate to the United States. By 1857, six of the seven Schwamb brothers had emigrated from Rhineland Pfalz to the United States.

In their heyday, nine separate mills, each with one or two backup mill ponds, dotted the Mill Brook Valley along Massachusetts Avenue from East Lexington as far as Mystic Street in Arlington. The water of the Mill Brook was used by each mill wheel in turn, and the water was then passed on to the next. After 1872 the mills were forced to gradually convert to steam when the Arlington Heights residential plan was laid out and the town dug a reservoir on Lowell Street, in anticipation of the professional class expected to populate the Heights. The influx was not realized because a prolonged recession cut demand and the Arlington Land Company went bankrupt within two years. Complaints were also lodged that the water was not clean. In 1898, Arlington applied to join the Metropolitan water system and in 1899, its petition was granted. Thus, the Heights were able to escape the fate of having the waters of the Great Meadows flow into their sinks.

None of this, however, reversed the draining down of the Great Meadows due to the reservoir. Gradually, the mill ponds lost their vital importance, were drained, filled in or left to grass over; and the great era of the mills was over. The last pond to go, Fowle's Pond near Mystic Street, was still visible in about 1955. Luckily, the town was able use the old mill areas for sports playing fields, particularly at the High School and at Buzzell field. Writing in 1924, Jacob Bitzer noted that, of the nine mills, only four were still running. Only two mills were prosperous enough to run full-time. These belonged to the frame maker and grandson of Charles Schwamb, Clinton W. Schwamb, and to the Theodore Schwamb Company, which at this time focused its business on wooden cases for grand pianos. Bucking the trend of the mills to shut down, these two would continue to work profitably for almost another 50 years, until 1969 and 1972, respectively.

When 17-year-old Karl Schwamb came from the southern Rheinland to apprentice at the sawing and wood-turning firm of Paul F. Dodge at 1175 Mass. Avenue, Yankee names dominated the town. There were Lockes, Winships, Robbinses and, above all, Cutters. The mill barns behind the Dodge house were known as the Stephen Cutter Mill, and the site of the new house built by Dodge came from the Cutter heirs. Similarly, if Karl had stayed in his hometown, Uнденheim, he would have belonged to an equally large clan of Schwambs. The Schwambs were as ubiquitous in Uнденheim as the Cutters were in Arlington. What both families shared was energy and a desire to have their own mills.

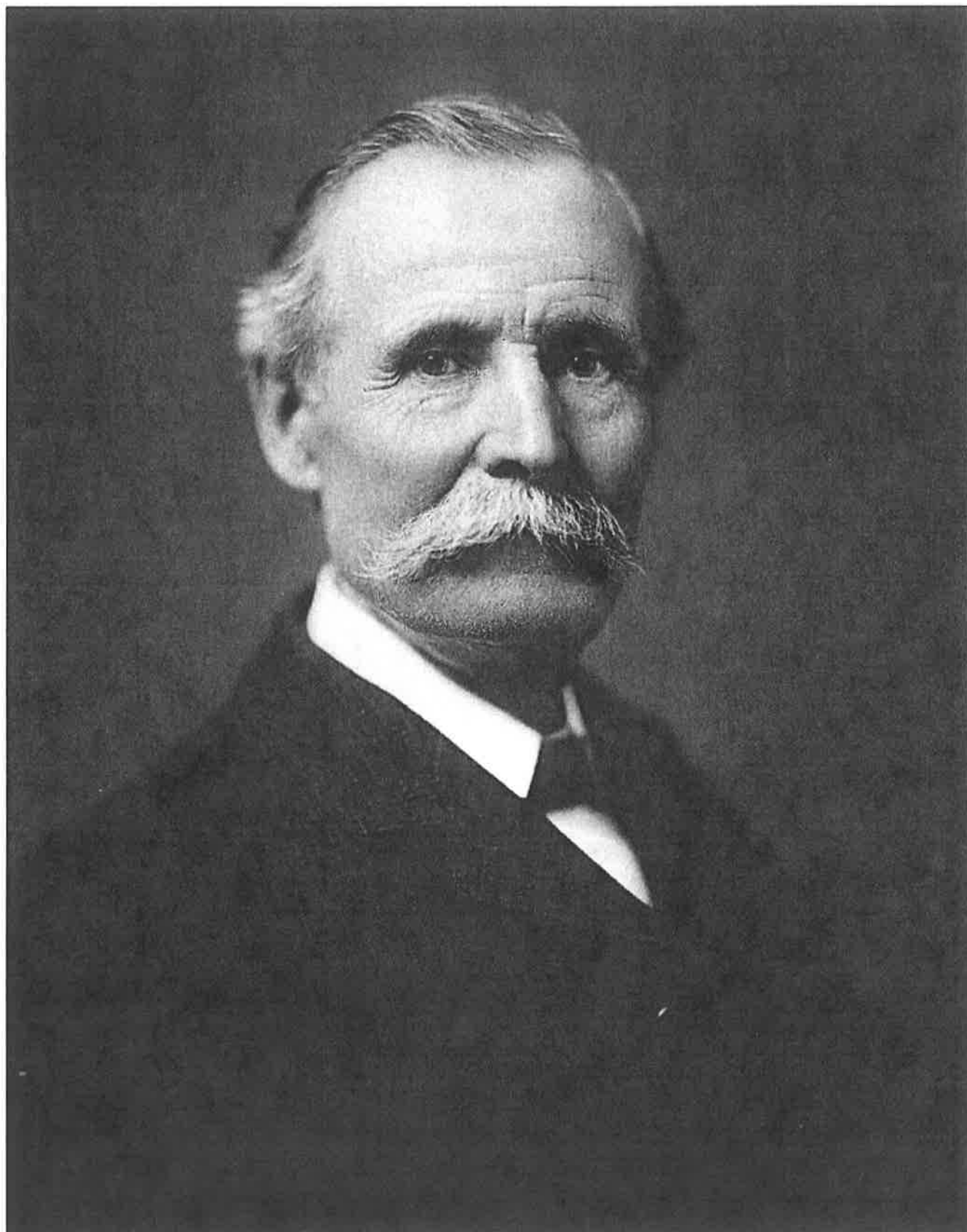
When he took on young Karl Schwamb as an apprentice, Dodge had suffered grievous personal losses: In 1836 he lost a son, age two months. In April, 1838, his wife, Maria Perry, died; and finally, his remaining infant son, age seven months, died in August of 1838. There is evidence that Dodge talked early to Charles about wanting to divest himself of the business. Half a century later, Karl Schwamb, renamed Charles Schwamb, consistently stated in his ads that his firm dated to 1850. This was likely the date when Dodge agreed to divestment. We know that the five Schwamb brothers' collaborative firm at this location began only in 1853, when the eldest brother, Jacob, was the first to join Charles in Arlington after several years of making piano cases for the firm of J.C. Lane in Leominster. Brother Peter had arrived in 1850 at age 20 to apprentice. In 1853, Theodore, then age 21, arrived from the vineyards he had tended for several years at his father's new, enlarged farm and public house in Kongenheim. He joined the elder brothers in a joint venture, which would last nine years until 1862. In 1857 the youngest and

last brother, Frederick, arrived in New York City from Le Havre on the ship, *Princeton*, accompanied by his fiancée, Thekla Breivogel. Five days later Thekla and Frederick were married in the Zion Evangelical Lutheran Church of Boston's South End, an early Greek revival brick building with classic pediment, which Jacob co-founded and helped to dedicate on Christmas Day, 1847.

As the first German to arrive in 1838, Jacob maintained his connection with the Zion Lutheran Church he helped to found, often "supplying the pulpit" himself in the absence of the minister. By 1853, however, he had begun to think better of settling on the scantily filled lands and commercial wharves of narrow Boston Neck. He had already buried two wives due to illness. He had worked in several piano factories in Boston and after 1842 had lived during an unhappy time of recession when his nearest brother, Ludwig, arrived to apprentice in woodworking, was forced to work in a lead-paint factory and fell ill with typhoid fever as well as lead poisoning. After a return to Germany, Ludwig reappeared in Boston in 1849, but passed through quickly, as if shaking the dust of Boston from his feet. He headed west to do what he had always wanted to do, to farm — first in Indiana and later in Missouri.

Perhaps also, Jacob found Leominster too undeveloped for a boy from the Rheinland. His foray there could have influenced his decision to join his brothers at 1171 Massachusetts Avenue in West Cambridge, a name Arlington retained until 1867. This was a proper town, yet with large tracts of undivided land, particularly in the Heights. The terrain was rougher for farming here than on the fertile eastern plain. But it was attractive for residences and businesses. In the coming decades, the Schwambs bought several of these areas from their Yankee owners. Jacob remarried again after two years, in 1855, to Katherine Guething. The couple added five more children to Jacob's previous five; and the good Katherine had the grace to outlive Jacob by six years and, with two of her sons, to continue until her death in 1887 the piano-case and straight-molding business Jacob had established at 1033 Mass. Avenue. The story of Jacob's mill didn't end there either: Jacob's youngest sons, William and Edward, carried on a furniture repairing and refinishing business together at 1033 Massachusetts Avenue until 1903, the year of William's death. As late as 1926, *The Arlington Advocate* reported that Edward Schwamb was still running the furniture refinishing business in the same place. And a jolly side of Edward came out in his obituary in 1946 when he died at 84. He was characterized as a notable musician who led the music program for the town's Centennial Celebration in 1907 and was the leader of the Arlington Zouaves Band. The Zouave soldiers were originally Civil War regiments with colorful costumes meant to resemble Berber tribesmen. Naturally, the story of Jacob's offspring doesn't end with the childless Edward. It is included to show the endurance, even of the least known of the Schwamb Mills, and the love of making music that ran through the German population in general, and the Schwambs in particular.

The business that the brothers started in 1853 was called, "Charles Schwamb and Brothers." This underlined the role of Charles as organizer. Jacob pioneered by scouting territory and pinpointing piano production as a skill with a future: Now Charles saw strength in numbers for the immigrant brothers and launched the enterprise. The location at 1171 Mass. Avenue had an attractive house, two hams and a mill wheel. During the firm's nine years of operation, the younger brothers apprenticed, became journeymen and joined the partnership. After the partnership was dissolved in 1862, the brothers started three separate businesses. Jacob, ever the restless family member, located himself in West Medford to make organ-cases for home use, a product of Mason and Hamlin Company. At the end of his career, Jacob returned to Arlington at 1033 Mass. Avenue where he ran his own mill until his death in 1881.



Theodore Schwamb

Theodore set his course to acquire 1171 Mass Avenue. It is not clear why he first located for a few years at 1093 Mass. Avenue near Hobbs Mill. He was determined to continue in the piano-case business and his eye was on the original location. By 1871 he was back at the Dodge homestead and had also acquired the Stephen Cutter Mill behind the house. Here, the largest of the three German mills in Arlington grew, the firm of Theodore Schwamb Company destined to last one hundred ten years and to remain important as the first and central location. The brothers all worked and lived close to one another for the rest of their lives, lending a hand in crises, and investing heavily in locations near one another in the Heights section of Arlington.

Sometime around 1850, Charles met Jane Sophia Hinton in the Choir of the First Parish Congregational Church (now Unitarian Universalist) in Arlington Center. Jane had been born in Birmingham, England. In 1852, Charles married his Jane and became the only brother to marry a girl with a non-German name. In this large, close-knit German family, one hopes that Jane managed to understand some German. Although Charles continued to walk often to Boston to attend services in German at Zion Lutheran Church in the South End, he was eager to become American as soon as possible; and an English-speaking wife fitted this plan.

A tragic event occurred in the brothers' collaboration in 1858, when a younger brother, Peter, died on March 24. We do not know the cause, but he had married Clara Buecher, an immigrant from Graach, Rheinpreussen, only one year earlier and his first child, Peter, Jr., was only one-and-one-half months old at the time of his father's death, suggesting a sudden and unexpected event.

Two years later, in 1860, Theodore married Peter's widow and adopted Peter, Jr., showing a trait he would carry through his life—the instinct of a good administrator to bring people together for the greater good of the whole. Charles, who was imaginative as an innovator, did not have the same ability to integrate his personnel. In 1864, for instance, Charles and Frederick opened a niche business on Mill Lane just a short distance upstream from the Dodge location. The Woodbridge Spice Mill had come up for sale after a fire. Here Charles and Frederick installed their lathes and introduced a new technology directed at the thriving market clamoring for oval frames: The business was successful, yet Frederick remained only three years, leaving with his wife Thekla Breivogel for New York State, and ultimately for Blue Island, Illinois, a suburb of Chicago. It was as if Charles instilled his spirit of adventure in others, but not in a manner that was to his own advantage.

The new wooden oval lathes offered technology capable of turning out perfect ovals of all sizes in large numbers, requiring skilled workmanship especially in the final contouring with a hand chisel on the double-axis lathe. The whole system was still powered by water. The enormous waterwheel, 18 feet in diameter was partially recessed under the basement floor, allowing for an "overshot" wheel, which channeled the water over the top. This was all going on, right under the feet of the workmen. Accustomed as we are to contemporary power sources, it is hard to believe this sophisticated shaping and carving was still deriving its energy from rough water flowing over a submerged wooden wheel. It had been so for thousands of years. But it seems somehow incongruous in the context of the burgeoning industrial age of the 1860s.

A similar example of Theodore's approach occurred in 1882. A plea came from Peter's nephew, Philip Eberhardt, in Guntersblum, Germany. Philip's mother, Katarina, was Theodore's sister, who died when Philip was only three. Philip suffered abuse from the husband of a kindly aunt, with whom he now lived. He begged his uncle in a letter to be allowed to come to the States. When Philip's ship arrived in New York, he was met by a Geunan customer of Theodore. But when he arrived in Providence on shipboard to Boston and could no longer hear German but only the "barbaric" English, he fell to weeping: "I was the most homesick boy you ever saw," he wrote many years later. "I laid my head on

the rail of the boat and cried my heart out. An old gentleman came and spoke to me but I cried all the harder until a young man who could speak German spoke to me and sort of straightened me out. I could not go into my stateroom but slept in one of the large chairs in the saloon. The next morning I arrived in Boston and was met by my sister and Mrs. Theodore Schwamb. On the following day, June 17th, I went to work and have been working ever since." For the first two years in Arlington, he remembered thinking that he would have returned immediately to Gettysburg if he could have. Nevertheless, he prospered at Theodore Schwamb, becoming superintendent of the entire plant in 1890, and then partner and director of the corporation in 1897. At Peter's retirement in 1924 Philip Eberhardt became president of the Theodore Schwamb Company. He continued to work there, even after the company was bought out by the Nickerson family in 1931, until the onset of his fatal illness shortly before his death in 1938.

Theodore's great talent for attracting and keeping talent was especially strong within his larger family. After Theodore's only son by Clara died at the age of two in 1866, Theodore set his hopes on his adopted son, Peter, Jr. Peter became, one might say, a perfect adopted son. He completed M.I.T. and rose there to become a professor of Mechanical Design and Mill Engineering, and head of the M.I.T. Mechanical Laboratories. Moreover, in Peter, Theodore had a son who could enhance his own profile in civic affairs, particularly in the 1890s, when Peter served on the committees to build two of Arlington's three most beautiful schools, the old High School on Academy Street, now the Senior Center; and the Cutter and Locke schools, placed at strategic intervals along Massachusetts Avenue as far as Park Avenue in the Heights. For the planning of the Locke, Peter was Committee Chairman. Presumably due to the really outstanding aesthetic of their architecture, and their solid construction, these schools were saved from the wrecker's ball and even though they were threatened at times in the years when school divestment was the fashion, the premise being that the school-age population would continue to decline. In 1899 also, Peter Schwamb, a long-time member of the Arlington Water Commission, was, in the words of William Cutter, "instrumental in having the town admitted into the Metropolitan water system." He remained active at Theodore Schwamb Company and joined in its incorporation as Treasurer in 1897. After Theodore's death in 1909, Peter took early retirement from M.I.T. and worked even more closely with the company until his own retirement in 1924.

While Theodore Schwamb built his company slowly, Charles leapt ahead quickly. From 1864 to 1879, Theodore's expansion was slower than Charles's. In 1878, for instance, when the bulk of the Mill owners were awarded damages for the drastic curtailment of the waters of the Sucker Brook due to the excavation of the Heights Reservoir, Theodore received \$6,024.16. Charles Schwamb, on the other hand, still riding the crest of the vastly popular oval frame business, received \$11,587.58. In 1875, *The Arlington Advocate* noted that Charles Schwamb had acquired "a snug fortune" in his business. In October of that year, he organized a surprise party among his thirty-five mill workers to welcome his twentyone-year-old son, Carl William, into his business as a partner. "The men in the establishment last Friday evening, despite the unfavorable state of the weather, marched in a body to the residence of Mr. Schwamb to congratulate the new firm." The "residence" was an impressive new mansard-roof house, which Charles had recently constructed at what is now 22 Fessenden Street. What Carl William, an artistic young man, thought of joining a dusty business (it was apparent later that his lungs were delicate), is a good question. But if he had to choose sawdust, rather than music, nevertheless, he remained a dutiful son and partner in the firm. He was the only son available at that time. When his only brother, Herbert Page, reached maturity 11 years later, he chose to go west to Denver. Within these limitations, Carl and his parents seemed to understand one another. He served as alternate organist, not only at the First Baptist Church where the family worshipped, but at various churches in the Heights and in Lexington. He was pianist for many years for the Sunday school of the First Baptist; and he designed music curriculum for the Arlington schools. Carl William died at the relatively early age, of 57 in 1912; yet for many decades thereafter a harpsichord stood on the third floor of the Mill as a reminder. In gratitude for Carl William's

contributions to the First Baptist Church in Arlington Center, the parish gave him an intricately carved square piano, an instrument which has been lovingly restored in the family of his granddaughter, Dorothy Sweet Raman, of Macomb, Illinois.

In 1879, the market for oval frames collapsed as square frames became the fashion. To the array of modern equipment Charles already had — rotary planers, band saws, circular saws and jigsaws, boring machines used for dowelling, and common and eccentric turning lathes — he now installed a molding machine, capable of being set to finish any possible design for straight stock, and to fashion any contour a frame maker might want. An enlarged second floor was added to accommodate the long lengths of stock. Charles was also helped with orders subcontracted from his brother, Jacob, who had for several years been operating in his own Mill at 1033 Mass. Avenue next to the building that is today Stop and Shop Pharmacy. (Not until 1919 did this parcel go out of Schwamb hands, when it was sold to a manufacturer of electric repair parts, and carbon and metal brushes used in automobiles. *The Advocate* reported that “The building is of the olden time construction and the timbers are put together with wooden pins, heavy timbers being used and many of them, quite a contrast to the buildings of today”. In recent years, several nostalgic mill enthusiasts have looked for this treasure, only to leave again cursing the brick-cube apartment building which has replaced it.)

In the early 1890s, America experienced a severe economic panic, followed by a prolonged recession. It is therefore surprising to read that the Theodore Schwamb Company saw constant growth, both in the 1890s and in the first years of the new century. In 1898, the year after its incorporation, the Company was the largest single business in Arlington. Directors were Peter Schwamb, Treasurer, Philip Eberhardt, Clerk and Assistant Superintendent, and Jacob Bitzer, Head of the shop. New property was purchased behind the Mill in 1905. In the same year, a narrow-gauge spur railroad track was added, linking the firm to the railroad and enabling the company to receive and deliver almost in the manner of a private railroad. Among the new structures, the largest was the four-story brick building, which today still bears uppermost on its facade the words, THEODORE SCHWAMB CO., ready for the passers-by of the twenty-first century.

As the middle class began to upscale its musical tastes in the new century, the vogue for upright pianos gave way to the aspiration for a grand piano. Theodore Schwamb Co. followed the trend, which required not only skill but speed and coordination in gluing veneers to its fine hardwoods. As the new century dawned, however, the first generation seemed suddenly to have grown quite venerable. At Charles Schwamb and Son Co., the heir apparent, Carl William, was on a protracted stay in Denver to improve his health. At the Mill, shop superintendent, John Frederick Bitzer, oldest brother of Jacob Bitzer, carried on as he had for 36 years. One cannot see how much sales work could have been going on.

For Charles, by nature an energetic entrepreneur, looking back from the vantage of 1900 must have been daunting. Of the nine children born to him and to Jane Hinton, seven were dead. Two sons and a daughter died shortly after birth; but the unthinkable happened from 1884 to 1891. His four grown daughters, lovely young women if one may judge from their photos, all died, one after another in successive years. Evidence strongly suggests a family tendency to tuberculosis, though the only written evidence concerns their youngest daughter, Jennie Louise Schwamb Wyman, who had recently given birth to a daughter. Two weakening bouts of pneumonia are mentioned, one before and one after the baby's birth (the baby also died within a few months). When Charles Schwamb died in 1903 at the age of seventy-six, his faithful superintendent, John Frederick Bitzer, resigned immediately and joined his youngest brother, Jacob Bitzer, at Theodore Schwamb, where he remained for the rest of his professional life.

When Carl William returned from Denver he found the mill almost without business and he retired in 1905. This is the point at which the Schwamb energy sprang up again: his two sons, Clinton W., 26, and Louis, 19, suddenly acquired a frantic determination to save their Mill. In 1907, under the new name of "Clinton W. Schwamb and Co.," they hoisted the red, white and blue bunting to the Mill's facade for the Centennial Celebration of the town's independent status. Under the company's name were emblazoned the words, "OLDEST OVAL FRAMEMAKER IN NEW ENGLAND." The firm was old—the partners were young! Clinton and Louis were not shy about invoking antecedents, if it served their purpose. The entrepreneur knows how to pick himself up because risks involve falls, and entrepreneurship is risky. Over years of hard work, Clinton and Louis brought the Mill back to prosperity.

Clinton's son, Elmer Schwamb, was born in 1904. When talking to Patricia Fitzmaurice in earlier years, Elmer remembered how hard his father and uncle worked to save and restore the Mill; and how he himself entered the business in the 1920s, traveling the length the East Coast on sales trips. The Mill stayed profitable and Elmer even added a niche partnership called "Elwayne," involving his son Wayne for the production of specialty frames. In the end, it was the advent of molded plastic and the ever-worsening quality of lumber that forced Elmer Schwamb, after the death of his Uncle Louis, in 1967, and that of Clinton in 1968, to sell what was to become the Old Schwamb Mill.

The buyer had plans to raze the building and blacktop the lot for parking. But luckily Patricia Fitzmaurice, who was already an ardent preservationist, happened by on her bicycle one fall day and learned the plans. She saw the historic exterior, and even more surprising, the incredible array of period tools and machines within. With the help of a small group of concerned Arlingtonians, she started the process that would result in the creation of a working museum, the Old Schwamb Mill, now in operation for 35 years.

Theodore Schwamb died in 1909. The piano-case business began to lag with the increasing interest in recordings, and especially with the advent of the radio in the early 1920s. Peter Schwamb retired in favor of Philip Eberhardt in 1924 and died unexpectedly in 1928 in the midst of his family at his house at 33 Academy Street. When Philip Eberhardt sold the business to the Nickerson family in 1931, the company name of Theodore Schwamb was retained. A decision was made to switch products to high-end architectural woodworking. This was a felicitous decision, given the extensive interior areas available and the skills, particularly of Italian workers, in the area. During the next forty-plus years, the Theodore Schwamb Co. became known nationwide for large projects of interior wood paneling and woodcarving.

Their work included elaborate projects for Yale University in New Haven; for the Tryon Palace at New Bern, North Carolina; for the original John Hancock Building in Boston and at the Harvey Firestone Library at Princeton, N.J. The firm of Cascieri di Biccari (the late Archangelo Cascieri, Dean of the Boston Architectural Center and Adio di Biccari, Arlington sculptor) opened a studio at Theodore Schwamb. Over four decades, this firm produced a wealth of carving and sculpture, including the exquisite Cascieri carvings for Marsh Chapel at Boston University; and the di Biccari sculpture ensemble opposite West Street on the Boston Common. One photo, taken in Arlington at the Schwamb Studio in the 1950s, shows a giant sculpture of St. Clement. The ponderous saint lies prone on a truck, having made it through of the wide doors of the Schwambs' most attractive structure, a small, classic brick building with brick detail, a building still extant today at 1167 behind the old homestead. After arriving safely at his Brighton destination, St. Clement was hoisted to very top of the facade of St. John Seminary.

The fact that such buildings still exist is to the credit of the Mirak family, a long-time Arlington family whose firm has specialized since 1936 in dealerships and service of cars and trucks. Recently, the firm developed a residential complex in Arlington Center called "The Legacy." Robert Mirak recently commented that "when my father, John Mirak, purchased the property in the 1970s, some of his

colleagues suggested tearing down the buildings to make way for another dealership or a major shopping center. My father decided to keep the buildings and used the property to store excess auto inventory. In addition, he liked the looks of the buildings and especially the handsome red brick and the colonial windows. From that time to the present, my father and in succession, the family has upgraded the buildings. Inside, over the decades, we have upgraded floors and brickwork. Specifically, the original wood flooring, which was blackened by use, was cleaned, sanded and urethaned to a handsome finish. Also, a number of walls were sandblasted to remove the paint on the brick; the results were sparkling.”

At this Theodore Schwamb complex, it is gratifying to see how many small businesses have found a home: the Image Inn has run a photographic studio there since 1982, specializing in the rare skills and patience required by traditional techniques; the architectural firm of Rovinelli is upstairs at 1167; and there are many individual artists in residence at the large complex at 1165, as well as the new WorkBar, established in 2016.

The Charles Schwamb Mill at 17 Mill Lane did not grow as large as the Theodore Schwamb Company, and it was never as visible, either. But however much the market fluctuated, Charles Schwamb and his descendants never gave up making fine oval frames. Amidst the final commercial years of competition from inferior wood and plastics, the Mill continued this work, as it does today, thanks to the late Patricia Fitzmaurice and her supporters.

In the end, the Old Schwamb Mill can lay claim to having endured, both as living history and as a working Mill. All three brothers, Theodore and Charles and Jacob, could be proud that their generation of immigrants achieved so much that is still treasured in Arlington today.

TIMELINE of the Schwamb Mill & Mill Brook

1630 English Puritan colonists first settled in Cambridge, Massachusetts in 1630 during the thirty years of the Great Migration. They brought with them, from England, the waterpower mill technology that was implemented on Mill Brook in Arlington for 235 years (after which a steam turbine replaced the water wheel). The Mill Brook, which drops more than 150 feet in two miles through Arlington, powered mills of various kinds at seven to nine mill sites. The brook has been called successively Vine Brook, Sucker Brook, and Mill Brook. According to one local historian (Edith Winn), the brook was a “mighty rushing river” at the end of the last ice age.

1637 The first mill on the Brook in Menotomy, or the Northwest Precinct of Cambridge (now Arlington), was the earliest water powered gristmill within the limits of colonial Cambridge. It was financed by Dr. Samuel Read of England and was established in 1637 by Captain George Cooke (b. c. 1610; d. Apr 1652) near the present day location of the Community Safety Building on Mystic Street in Arlington. Cooke’s Mill is now commemorated by a park, Cooke’s Hollow, and a bronze tablet.

1638 Edward Winship bought a three-acre estate at the easterly corner of Brattle and Mason Streets and extending through the Cambridge Common (in Cambridge). He was a Lieutenant of Militia in 1660, a Selectman for 14 years between 1637 and 1684, and a Representative in the General court for eight years. He died on 2 Dec 1688.

Cooke had sailed for New England in the ship Defence in 1635, at the age of 25. In Massachusetts, on 3 Mar 1636, he was admitted as a freeman. From there he became a representative in its Assembly, and Speaker in 1645. In addition, he had been appointed Captain of the Artillery Company in 1637 and once returned to Boston with nine Indians captured during an “excursion”.

1639 The Squaw Sachem (i.e. woman chief) of the Massachuset (<http://dickshovel.com/massa.html>) tribe ceded all the lands of her tribe, excepting her homestead (which was bounded on the east by the Mystic Lakes and on the south by Mill Brook), to the English Puritan settlers of Cambridge, for “twenty and one coates, ninten fathom of wampom, and three bushels of corne”. Three epidemics of European diseases and warfare with the Abenaki (<http://www.dickshovel.com/aben.html>) tribe from the north had greatly reduced the number of men in the Massachuset tribe. The survivors were too few to defend their land against the invaders from England and had little choice but to agree to the contract. The Squaw Sachem (whose name is unknown) died in 1658. The exchange of property is illustrated in two local WPA murals: *Purchase of Land from the Indians* by Aidan Lasell Ripley, 1934, in the Winchester MA Public Library, and *Purchase and Use of the Soil* by William A. Palmer, 1938, in the Arlington MA Post Office.

Many of the principal inhabitants of Wexford as well as several hundred females gathered around the great cross in the marketplace of Wexford in the hope that their defenseless condition would move George Cooke and his men to compassion. However, Cooke butchered all of them and filled the marketplace with their blood.

1645 Captain George Cooke abandoned his mill, returned to England, and joined Cromwell’s army as Colonel of a regiment of foot soldiers. Puritan “Roundheads” formed the backbone of Cromwell’s forces. On 11 Oct 1649, Cooke’s regiment captured the town of Wexford (in County Wexford, Ireland). Cooke became governor and “exacted bloody retribution against the defending Irish”. Houses and cabins, and stores of livestock and corn were all plundered and burnt. Cooke insisted that this was the only way to subdue the roving parties of Irish, by denying them sustenance and shelter in the region.

Dr. Lynch describes George Cooke, the commander of the Puritans in Wexford, as especially remarkable for his brutality and cruelty. Having given a security to the inhabitants of Wexford that they might reside in their own homes, “Cooke afterwards authorized Captain Bolton, before the extirpation of the stipulated day, to scour that county with his cavalry and plunder it. Then commenced an indiscriminate massacre of men, women, and children, by which not less than four thousand souls, young and old, were atrociously butchered.”

In 1652, General Cooke shut up 300 men and many infants in a house in the county of Wexford, and then setting fire to the house, all were burned in the flames. But Captain Gore, one of the officers under Cooke, succeeded in concealing on his horse, under his cloak, a little boy who had escaped out of the house. Cooke, discovering the fact, severely condemned the captain, and returning himself with the boy, hurled him into the flames.

In April 1652, Cooke and his mounted escort had a running fight with the troop of the Irish patriot, Captain Nash, on the road from Gowran to Loughlin. Both Cooke and Captain Nash were found dead after the battle.

Cooke’s mill in Menotomy was allowed to decay and eventually crumble away.

1670 Cooke’s daughter Mary, then living in England, sold her father’s 600-acre farm at Cambridge Farms (now Lexington) as well as the twenty acres of land in Menotomy (now Arlington) to John Rolfe of Nantucket. (Ref. 7, page 235.) Rolfe erected an entirely new waterpowered mill on the old site.

1681 John Rolfe died. His widow, Mary (Scullard) Rolfe, sold a fifth of the Cooke farm at Cambridge Farms, or 120 acres of land. She and her son Moses laid out the second Mill Brook watermill power system of pond, dam, mill, and mill race at what is now Mill Street in Arlington. They first built a dam but then waited several years before completing the entire mill raceway system.

1684 The third watermill power system of ponds, dam, mill, and mill race had been laid out before 1684, and a mill built by David Winship, at the Foot of the Rocks in the Menotomy section of Cambridge. This is the site of the present Old Schwamb Mill.

This third mill privilege, at the Foot of the Rocks, was willed to Joseph Winship (b. 21 Jun 1661; d. 18 Sep 1725; resided in Menotomy) by his father, Lt. Edward Winship, who had also built mills in Lexington at the edge of the Great Meadow. Evidence of a mill pond is still visible as a grassy park near Bow Street.

1688 Lieutenant Edward Winship died on 2 Dec 1688 and left to his son Joseph "a certain gristmill in Cambridge, with all and singular the dam, flooms, mill-pond", etc. This mill was on the site of what is now called The Old Schwamb Mill.

1704 William Cutter built a dam 18 feet high near his home at the present Mill Street, raised the level of the pond, and erected a sawmill.

1714 Moses Rolfe, a son of John Rolfe, sold 130 acres of Cooke's farm to John Cutter (a glazier b.1690), a son of William Cutter.

1718 Moses Rolfe sold 100 acres of the Cooke's Farm to his brother-in-law, William Cutter, husband of Moses Rolfe's sister.

1732 On 27 Dec 1732, the General Court designated the part of Cambridge on the west side of the Menotomy River (now called Alewife Brook) as the Second or Northwest Precinct of Cambridge. This was the beginning of the First Congregational Parish, the parish being simply the precinct in its religious relations.

After several changes of name the First Congregational Parish eventually evolved into the First Parish Unitarian Universalist Church of Arlington.

1775 On the first day of the American Revolution, Paul Revere and the British regulars all passed at a distance of about 200 yards from the Mill at the Foot of the Rocks on their way to Lexington and Concord. The British returned by the same route, fighting their way through Menotomy on their way back to Charlestown.

1807 In 1807, Menotomy (which was officially called the Northwest or Second Parish of Cambridge) became a separate town, West Cambridge.

1808 In 1808, Stephen Cutter constructed another sawmill on the pond at Mill Street.

1827 In 1827, Mary Cutter, the widow of Stephen Cutter, granted land abutting the Mill Pond to the Baptist Society "for the erection of a meeting house with the privilege of using so much of the mill pond as necessary for the ordinance of baptism." Sylvia Brazy was baptized on 3 June 1827.

1838 Jacob Schwamb emigrated to Boston from Untenheim, Rhein Hessen, Germany. Jacob was the first of the Schwamb brothers to immigrate to the United States. By 1857, six of the seven Schwamb brothers had emigrated from Rhineland Pfalz to the United States.

1846 The Lexington and West Cambridge Rail Road commenced service between Bedford, Lexington, Arlington (then called West Cambridge), and Boston.

1847 Charles Schwamb emigrated to Boston from Udenheim, Rhein Hessen, Germany to join his older brother Jacob in the burgeoning Boston piano industry.

1850 Charles and Jacob Schwamb moved to the Dodge Mill (built by Gershom Cutter) on Mill Brook (1167 Massachusetts Avenue) to make piano cases. They were joined by brothers Peter, Theodore, and Frederick.

1853 From 1853 to 1862, Charles, Jacob, Theodore, Peter, and Frederick Schwamb operated a collaborative piano-case business at 1165 Massachusetts Avenue in West Cambridge (now Arlington).

1858 Peter Schwamb died suddenly, leaving a widow and a two-month-old son, Peter Schwamb, Jr.

1860 Theodore Schwamb married the widow of his brother Peter. Theodore adopted Peter Jr. who would become a professor and Director of the Mechanical Laboratory at MIT and Treasurer of the Theodore Schwamb Company at 1165-1171 Massachusetts Avenue in Arlington.

After ownership of the Foot of the Rocks Mill property had descended through many generations, it was acquired by Henry Woodbridge for grinding spices. The mill was severely damaged by fire in 1860.

1861 The Woodbridge Spice Mill at the Foot of the Rocks was rebuilt on the old foundations circa 1861.

1862 Theodore Schwamb founded the Theodore Schwamb Mill to manufacture piano casings. The address later became 1165 Massachusetts Avenue in Arlington, Massachusetts.

Frederick shortly left for Chicago and the lumber business. Frederick and his wife (Thekla Breivogel) were living in New York State in 1871.

1864 Charles Schwamb and his youngest brother, Frederick, acquired the Woodbridge Spice Mill at the Foot of the Rocks. Using skills that they had developed in their native Germany and in their American apprenticeships, they converted the mill to woodworking, especially for making oval frames for portrait photographs. They installed shaft and pulley belt-driven machinery, including German eccentric faceplate lathes and a moulding machine. Four generations of descendants of Charles Schwamb operated the Mill until 1969.

Theodore Schwamb and Peter Schwamb acquired the Dodge Mill. Jacob Schwamb, the oldest of the Schwamb brothers, opened his own piano case business.

1865 The popularity of the oval portrait frame arose just after the Civil War along with the increasing accessibility of photography. Beginning then, the Old Schwamb Mill became the leading maker of hand-turned oval and circular portrait and mirror frames in the United States.

1867 In order to distinguish itself from its parent community and to honor its Civil War heroes, the town changed its name from West Cambridge to Arlington on 30 April 1867.

1869 A new three-story wing was added to the Old Schwamb Mill in 1869 to provide for a four-sided moulding machine on the first floor and finishing rooms above.

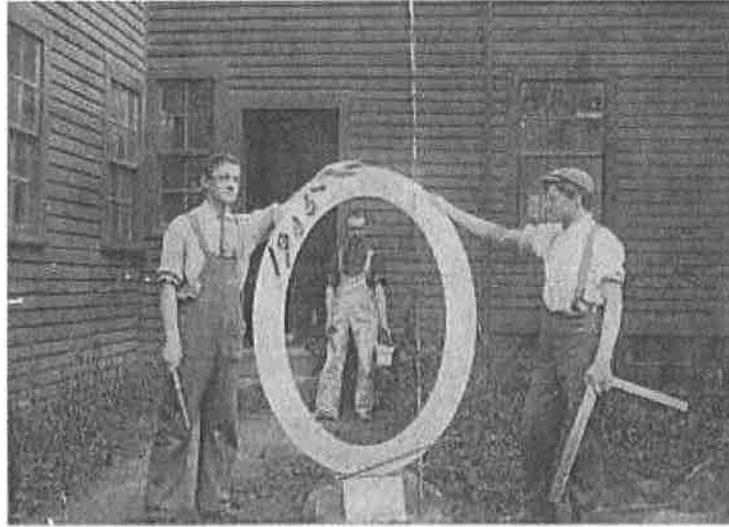
1872 The Town of Arlington took Mill Brook for a public water supply. The Charles Schwamb Mill at the Foot of the Rocks installed a steam engine in the cellar of the barn. A 40-foot-long underground drive shaft transmitted power to the Mill machinery.

1875 Charles's son Carl William (or "Will") was taken into partnership. Carl often played the organ at the First Baptist Church in Arlington. There is a report that Carl was the organist at the Follen Church (Unitarian) in Lexington.

1883 A two-story ell was added to the Mill in 1883 to provide a first-floor office and a shipping room above.

1888 A water turbine was added to the Charles Schwamb Mill at the Foot of the Rocks in 1888 to supplement the existing steam engine power.

1905 Carl's sons Clinton and Louis acquired the Mill property and business, which they named the Clinton W. Schwamb Company.



*In the
photo
above,
Clinton
is on the
left and
Louis is
on the
right. The
date
"1905"
was
written
by pencil
on the
print that
was
scanned,
not
written
on the
actual*

*wooden
frame.*

1922 The Theodore Schwamb Mill included seven buildings and had about 100 employees.

1928 A nephew of Theodore Schwamb assumed ownership of the Theodore Schwamb Mill. He discontinued manufacture of piano casings and began to manufacture architectural woodwork.

1931 The Theodore Schwamb Mill was reorganized by Donald E. Nickerson, Donald A. Davis, and Alvin W. Davis.

1940 The Theodore Schwamb Mill added an ecclesiastical department which included Arcangelo Cascieri as resident sculptor.

1942-1945 For the duration of World War II, the Theodore Schwamb Mill discontinued all civilian work. It produced millwork and cabinet work for military bases, Liberty ships, and PT boats.

1954 The Clinton W. Schwamb Mill installed electric motors and sold its steam engine. The original 19th century shaft and pulley belt-driven system remained in place to transmit power to the individual machines throughout the Mill.

1969 Deaths of Clinton and Louis Schwamb, and the approaching retirement of Clinton's son Elmer, prompted Elmer Schwamb and Louis's widow to enter into a purchase and sale agreement with neighboring lumber terminal truckers to honor Clinton's promise to the truckers to provide additional truck access to their property. The plan of the truckers called for demolition of the three Mill buildings.

The Schwamb Mill Preservation Trust, a nonprofit charitable educational trust, was formed by four Arlington Conservation Commission members:

Patricia C. Fitzmaurice (1923-2001)
Doris Atwater (now Bouwensch)
Rudolph Kass
David D. Wallace

The purpose of the Trust was — and is — to raise funds to save the Mill, to maintain the production of oval frames, and to exhibit the Mill's collections and traditions. This was apparently the first case of grassroots historic industrial preservation in America.

1970 On 16 Jan 1970, the Old Schwamb Mill was acquired by The Schwamb Mill Preservation Trust with contributed funds from two Boston foundations, a Cambridge bank, and several individual donors. The Trust appointed Patricia C. Fitzmaurice as Managing Trustee, a position which she held until her death on 15 Feb 2001.

During the years following the acquisition, frame makers working at the Mill included

- David Graf: Current woodturner
- David Hogan
- Walter Horak
- Ronald J. McLellan (15 May 1924-30 Dec 1995)
- Gordon E. Richardson (10 Aug 1902 — 23 Jan 1990)
- Gordon Whitermore.

After being acquired by the Schwamb Mill Preservation Trust, the Old Schwamb Mill continued to manufacture museum-quality frames but relied on the additional income that it received from donors and appropriate tenants.

In the summer of 1970, the Old Schwamb Mill created a Craft Center which offered 10-week courses in:
Silver Jewelry Making taught by *H. Val Fay*
Printmaking taught by *Anthony Pilla*
Pottery and Ceramics taught by *Nadine Hurst*
Clay Sculpture and Pottery taught by *Lisa McLean*
Furniture Refinishing taught by *Bron M. Warsaskas*
Waste Conversion taught by *Richard Darling*

In the autumn, the Mill added courses in Life Drawing, Water Color Painting, Italic Lettering, Gold Leafing, Furniture Stenciling, Weaving, Leathercraft, and Basic Oil Painting.

Part of the second story of the Mill was rented to The Hart Viol Workshop. The proprietor, Richard Hart, manufactured Viols da Gamba, Vielles, Psalteries, Rebecs, Fiedels, and other Mediterranean and Renaissance string instruments.

Two potteries were started at the Mill: the Barn Potters, Cora Pucci and Kathy Ingoldsby; and the Mill-Race Pottery with Telle Bjork and Nadine Hurst.

1971 The Theodore Schwamb Mill closed. That property was acquired by another immigrant entrepreneur, John P. Mirak, partially for use by his automobile dealership and partially for lease to numerous small businesses.

The Old Schwamb Mill was listed in The National Register of Historic Places by the Secretary of the United States Department of the Interior for the Mill's national historical significance.

1972 The Old Schwamb Mill held its first annual "barn sale." This fundraising event was continued for at least three years.

1975 The Old Schwamb Mill obtained the last remaining timbers from the "Washington Elm" (under which General George Washington assumed command of all colonial troops on 3 July 1775). The Mill manufactured for sale 75 spandrel frames using wood from the Washington Elm. Each frame contained a print showing Washington taking command of the Continental Army.

1976 At the request of the Commandant of the First Naval District, artisans from the Old Schwamb Mill made an oak jewel chest from timbers of the USS Constitution.

J. William Middendorf II, Secretary of the United States Navy, gave the chest to Queen Elizabeth II at the time of her bicentennial visit to Boston.

1979 Shaker Workshops became a tenant of the Old Schwamb Mill in May 1979. They occupied the westerly half of the first floor of the main Mill building.

The Mill offered classes in Design, Advance Calligraphy and Manuscript Illumination, Life Drawing, Painting, Silver Jewelry, Stained Glass, Pottery, Woodworking with Hand Tools, Woodworking in Miniature, and Researching Old Houses.

1981 Artisans of the Old Schwamb Mill produced 13 oval display cases as part of the renovation of the throne room in the Iolani Palace in Hawaii. The cases are being used to display the jewels which kings, queens, and emperors gave to the Hawaiian royalty during their travels covering a period of 15 years. Each case has an oval shape and has a royal crest at the top. The oval cases were carved out of seasoned poplar. The crests were carved out of maple from the town of Wellesley.

1983 In Dec 1983, Shaker Workshops expanded its operations. They established their office in the upper level of the barn and used the lower level of the barn for production. Their showroom remained in the main building of the Mill.

1985 Sometime in 1985, Shaker Workshops moved its production to Fitchburg and expanded its showroom at the Old Schwamb Mill to occupy both floors of the barn. By Jan 1986, they had moved completely out of the main Mill building.

1988 The Massachusetts Historical Commission gave a 25th Anniversary Preservation Award to Patricia C. FitzMaurice for her preservation activities in connection with the Old Schwamb Mill.

2000 On 17 May 2000, Patricia Fitzmaurice received the Ayer Award from the Bay State Historical League for being "a visionary preservationist who recognized the historical and educational value of the Old Schwamb Mill property in Arlington in 1969 and since then has worked tirelessly in leading efforts to fulfill its mission."

Today The site of The Old Schwamb Mill is now the oldest continuously operating mill site in the United States. The earlier mills are either long gone or no longer operating.

Schwamb frames and mouldings are in every major art museum in the United States and are included in the collections of the White House, the Vatican, Buckingham Palace, the Palace of the Kings of Hawaii, and the collection of Queen Sylvia of Sweden.

[WORDPRESS.COM.](https://oldschwambmill.org/schwamb-family/)

Theodore Schwamb and the Era of the German Mills in Arlington



MIRIAM BITZER SWEENEY

Jacob Bitzer, as a young man. He came from Germany at the age of ten.

In 1924, retired shop superintendent and director of the Theodore Schwamb Mill, Jacob Bitzer, recognized that almost all of the second-generation German mill owners had passed away. After his mill career, Bitzer was extraordinarily active in civic affairs, as Town Moderator, and as a member of the Massachusetts General Court. He was instrumental in building the new high school on Massachusetts Avenue in 1914, and pushing through the Mystic Valley Parkway. When he looked back and realized how much of the mill era had already vanished, he composed a "History of the Mills along the Sucker Brook," for the Arlington Historical Society. "Sucker Brook" was an earlier name for Arlington's Mill Brook, which ran and still runs, sometimes underground, from the Great Meadows in East Lexington, to the Mystic Lakes on the Winchester border.

In their heyday nine separate mills, each with one or two backup mill ponds, dotted the Mill Brook Valley along Massachusetts Avenue from East Lexington as far as Mystic Street in Arlington. The water of the Mill Brook was used by each mill wheel in turn, and the water was then passed on to the next. After 1872 the mills were forced to gradually convert to steam when the Arlington Heights residential plan was laid out and the town dug a reservoir on Lowell Street, in anticipation of the professional class expected to populate the Heights. The influx was not realized because a prolonged

recession cut demand and the Arlington Land Company went bankrupt within two years. Complaints were also lodged that the water was not clean. In 1898, Arlington applied to join the Metropolitan water system and in 1899, its petition was granted. Thus, the Heights were able to escape the fate of having the waters of the Great Meadows flow into their sinks.

None of this, however, reversed the draining down of the Great Meadows due to the reservoir. Gradually, the mill ponds lost their vital importance, were drained, filled in or left to grass over; and the great era of the mills was over. The last pond to go, Fowle's Pond near Mystic Street, was still visible in about 1955. Luckily, the town was able use the old mill areas for sports playing fields, particularly at the High School and at Buzzell field. Writing in 1924, Jacob Bitzer noted that, of the nine mills, only four were still running. Only two mills were prosperous enough to run full-time. These belonged to the frame maker and grandson of Charles Schwamb, Clinton W. Schwamb, and to the Theodore Schwamb Company, which at this time focused its business on wooden cases for grand pianos. Bucking the trend of the mills to shut down, these two would continue to work profitably for almost another 50 years, until 1969 and 1972, respectively.

When 17-year-old Karl Schwamb came from the southern Rheinland to apprentice at the sawing and wood-turning firm of Paul F. Dodge at 1175 Mass. Avenue, Yankee names dominated the town. There were Lockes,

Winships, Robbinses and, above all, Cutters. The mill barns behind the Dodge house were known as the Stephen Cutter Mill, and the site of the new house built by Dodge came from the Cutter heirs. Similarly, if Karl had stayed in his hometown, Udenheim, he would have belonged to an equally large clan of Schwambes. The Schwambes were as ubiquitous in Udenheim as the Cutters were in Arlington.

What both families shared was energy and a desire to have their own mills.

When he took on young Karl Schwamb as an apprentice, Dodge had suffered grievous personal losses: In 1836 he lost a son, age two months. In April, 1838, his wife, Maria Perry, died; and finally, his remaining infant son, age seven months, died in August of 1838. There is evidence that Dodge talked early to Charles about wanting to divest himself of the business. Half a century later, Karl Schwamb, renamed Charles Schwamb, consistently stated in his ads that his firm dated to 1850. This was likely the date when Dodge agreed to divestment. We know that the five Schwamb brothers' collaborative firm at this location began only in 1853, when the eldest brother, Jacob, was the first to join Charles in Arlington after several years of making piano cases for the firm of J.C. Lane in Leominster. Brother Peter had arrived in 1850 at age 20 to apprentice. In 1853, Theodore, then age 21, arrived from the vineyards he had tended for several years at his father's new, enlarged farm and public house in Köngernheim. He joined the elder brothers in a joint venture, which would last nine years until 1862. In 1857,



Today the Theodore Schwamb Mill complex houses a variety of small businesses

the youngest and last brother, Frederick, arrived in New York City from Le Havre on the ship, *Princeton*, accompanied by his fiancée, Thekla Breivogel. Five days later Thekla and Frederick were married in the Zion Evangelical Lutheran Church of Boston's South End, an early Greek revival brick building with classic pediment, which Jacob co-founded and helped to dedicate on Christmas Day, 1847.

As the first German to arrive in 1838, Jacob maintained his connection with the Zion Lutheran Church he helped to found, often "supplying the pulpit" himself in the absence of the minister. By 1853, however, he had begun to think better of settling on the scantily filled lands and commercial wharves of narrow Boston Neck. He had already buried two wives due to illness. He had worked in several piano factories in Boston and after 1842 had lived during an unhappy time of recession when his nearest brother, Ludwig, arrived to apprentice in woodworking, was forced to work in a lead-paint factory and fell ill with typhoid fever as well as lead poisoning. After a return to Germany, Ludwig reappeared in Boston in 1849, but passed through quickly, as if shaking the dust of Boston from his feet. He headed west to do what he had always wanted to do, to farm – first in Indiana and later in Missouri.

Perhaps also, Jacob found Leominster too undeveloped for a boy from the Rheinland. His foray there could have influenced his decision to join his brothers at 1171 Massachusetts Avenue in West Cambridge, a name Arlington retained until 1867. This was a proper town, yet with large tracts of undivided land, particularly in the Heights. The terrain was rougher for farming here than on the fertile eastern plain. But it was attractive for residences and businesses. In the coming decades, the Schwambs bought several of these areas from their Yankee owners. Jacob remarried again after two years, in 1855, to Katherine Guething. The couple added five more children to Jacob's previous five; and the good Katherine had the grace to outlive Jacob by six years and, with two of her sons, to continue until her death in 1887 the piano-case and straight-molding business Jacob had established at 1033 Mass. Avenue. The story of Jacob's mill didn't end there either: Jacob's youngest sons, William and Edward, carried on a furniture repairing and refinishing business together at 1033 Massachusetts Avenue until 1903, the year of William's death. As late as 1926, *The Advocate* reported that Edward Schwamb was still running the furniture refinishing business in the same place. And a jolly side of Edward came out in his obituary in 1946 when he died at 84. He was characterized as a notable musi-

cian who led the music program for the town's Centennial Celebration in 1907 and was the leader of the Arlington Zouaves Band. The Zouave soldiers were originally Civil War regiments with colorful costumes meant to resemble Berber tribesmen. Naturally, the story of Jacob's offspring doesn't end with the childless Edward. It is included to show the endurance, even of the least known of the Schwamb Mills, and the love of making music that ran through the German population in general, and the Schwambs in particular.

The business that the brothers started in 1853 was called, "Charles Schwamb and Brothers." This underlined the role of Charles as organizer. Jacob pioneered by scouting territory and pinpointing piano production as a skill with a future: Now Charles saw strength in numbers for the immigrant brothers and launched the enterprise. The location at 1171 Mass. Avenue had an attractive house, two barns and a mill wheel. During the firm's nine years of operation, the younger brothers apprenticed, became journeymen and joined the partnership.

After the partnership was dissolved in 1862, the brothers started three separate businesses. Jacob, ever the restless family member, located himself in West Medford to make organ-cases for home use, a product of Mason and Hamlin Company. At the end of his career, Jacob returned to Arlington at 1033 Mass. Avenue where he ran his own mill until his death in 1881.

Theodore set his course to acquire 1171 Mass Avenue. It is not clear why he first located for a few years at 1093 Mass. Avenue near Hobbs Mill. He was determined to continue in the piano-case business and his eye was on the original location. By 1871 he was back at the Dodge homestead and had also acquired the Stephen Cutter Mill behind the house. Here, the largest of the three German mills in Arlington grew, the firm of Theodore Schwamb Company destined to last one hundred ten years and to remain important as the first and central location. The brothers all worked and lived close to one another for the rest of their lives, lending a hand in crises, and investing heavily in locations near one another in the Heights section of Arlington.

Sometime around 1850, Charles met Jane Sophia Hinton in the Choir of the First Parish Congregational Church (now Unitarian Universalist) in Arlington Center. Jane had been born in Birmingham, England. In 1852, Charles married his Jane and became the only brother to marry a girl with a

Peter Schwamb, Jr., during his years as Professor of Machine Design and Mill Engineering at M.I.T.



non-German name. In this large, close-knit German family, one hopes that Jane managed to understand some German. Although Charles continued to walk often to Boston to attend services in German at Zion Lutheran Church in the South End, he was eager to become American as soon as possible; and an English-speaking wife fitted this plan.

A tragic event occurred in the brothers' collaboration in 1858, when a younger brother, Peter, died on March 24. We do not know the cause, but he had married Clara Buecher, an immigrant from Graach, Rheinpreussen, only one year earlier and his first child, Peter, Jr., was only one-and-one-half months old at the time of his father's death, suggesting a sudden and unexpected event. Two years later, in 1860, Theodore married Peter's widow and adopted Peter, Jr., showing a trait he would carry through his life – the instinct of a good administrator to bring people together for the greater good of the whole. Charles, who was imaginative as an innovator, did not have the same ability to integrate his personnel. In 1864, for instance, Charles and Frederick opened a niche business on Mill Lane just a short distance upstream from the Dodge location. The Woodbridge Spice Mill had come up for sale after a fire. Here Charles and Frederick installed their lathes and introduced a new technology directed at the thriving market clamoring for oval frames: The business was successful, yet Frederick remained only three years, leaving with his wife Thekla Breivogel for New York State, and ultimately for Blue Island, Illinois, a suburb of Chicago. It was as if Charles instilled his spirit of adventure in others, but not in a manner that was to his own advantage.

The new wooden oval lathes offered technology capable of turning out perfect ovals of all sizes in large numbers, requiring skilled workmanship

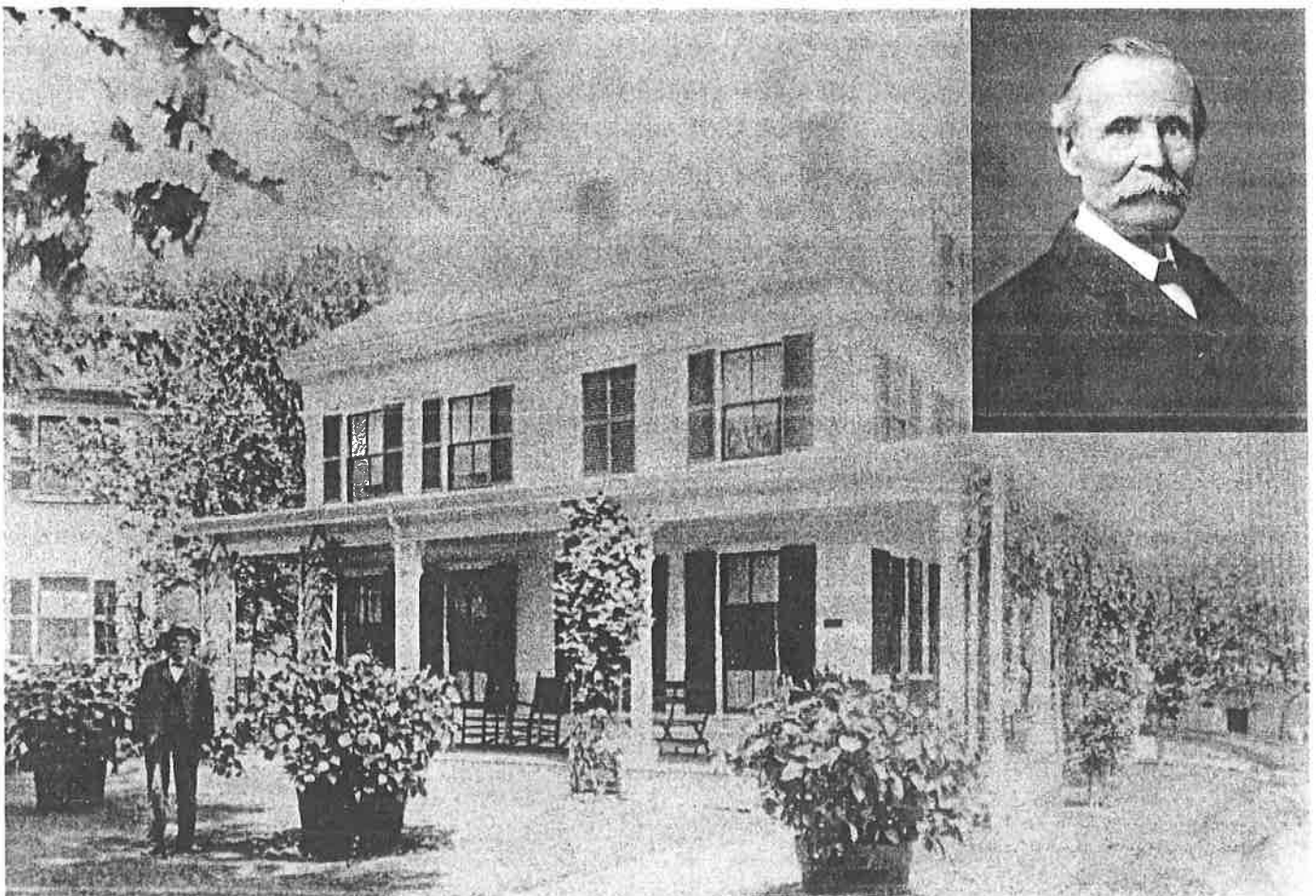
especially in the final contouring with a hand chisel on the double-axis lathe. The whole system was still powered by water. The enormous waterwheel, 18 feet in diameter was partially recessed under the basement floor, allowing for an "overshot" wheel, which channeled the water over the top. This was all going on, right under the feet of the workmen. Accustomed as we are to contemporary power sources, it is hard to believe this sophisticated shaping and carving was still deriving its energy from rough water flowing over a submerged wooden wheel. It had been so for thousands of years. But it seems somehow incongruous in the context of the burgeoning industrial age of the 1860s.

A similar example of Theodore's approach occurred in 1882. A plea came from Peter's nephew, Philip Eberhardt, in Guntersblum, Germany. Philip's mother, Katarina, was Theodore's sister, who died when Philip was only three. Philip suffered abuse from the husband of a kindly aunt, with whom he now lived. He begged his uncle in a letter to be allowed to come to the States. When Philip's ship arrived in New York, he was met by a German

customer of Theodore. But when he arrived in Providence on shipboard to Boston and could no longer hear German but only the "barbaric" English, he fell to weeping: "I was the most homesick boy you ever saw," he wrote many years later. "I laid my head on the rail of the boat and cried my heart out. An old gentleman came and spoke to me but I cried all the harder until a young man who could speak German spoke to me and sort of straightened me out. I could not go into my stateroom but slept in one of the large chairs in the saloon. The next morning I arrived in Boston and was met by my sister and Mrs. Theodore Schwamb. On the following day, June 17th, I went to work and have been working ever since." For the first two years in Arlington, he remembered thinking that he would have returned immediately to Germany if he could have. Nevertheless, he prospered at Theodore Schwamb, becoming superintendent of the entire plant in 1890, and then partner and director of the corporation in 1897. At Peter's retirement in 1924 Philip Eberhardt became president of the Theodore Schwamb Company. He continued to work there, even after the company was bought out by the Nickerson

family in 1931, until the onset of his fatal illness shortly before his death in 1938.

Theodore's great talent for attracting and keeping talent was especially strong within his larger family. After Theodore's only son by Clara died at the age of two in 1866, Theodore set his hopes on his adopted son, Peter, Jr. Peter became, one might say, a perfect adopted son. He completed M.I.T. and rose there to become a professor of Mechanical Design and Mill Engineering, and head of the M.I.T. Mechanical Laboratories. Moreover, in Peter, Theodore had a son who could enhance his own profile in civic affairs, particularly in the 1890s, when Peter served on the committees to build two of Arlington's three most beautiful schools, the old High School on Academy Street, now the Senior Center; and the Cutter and Locke schools, placed at strategic intervals along Massachusetts Avenue as far as Park Avenue in the Heights. For the planning of the Locke, Peter was Committee Chairman. Presumably due to the really outstanding aesthetic of their architecture, and their solid construction, these schools were saved from the wrecker's ball and have found a second life in new incarnations,



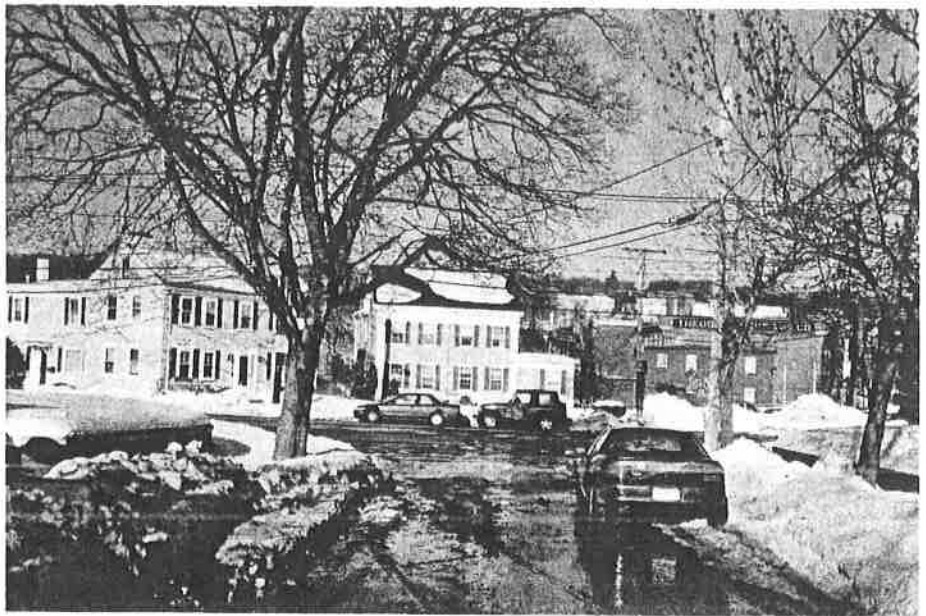
The Theodore Schwamb (formerly Dodge) homestead at 1171 Mass. Ave., about 1905. Theodore stands at left, bottom. Portrait of Theodore inset upper right. The showy landscaping reflects his early love of his father's vineyards in Germany.

even though they were threatened at times in the years when school divestment was the fashion, the premise being that the school-age population would continue to decline. In 1899 also, Peter Schwamb, a long-time member of the Arlington Water Commission, was, in the words of William Cutter, “instrumental in having the town admitted into the Metropolitan water system.” He remained active at Theodore Schwamb Company and joined in its incorporation as Treasurer in 1897.

After Theodore’s death in 1909, Peter took early retirement from M.I.T. and worked even more closely with the company until his own retirement in 1924.

While Theodore Schwamb built his company slowly, Charles leapt ahead quickly. From 1864 to 1879, Theodore’s expansion was slower than Charles’s. In 1878, for instance, when the bulk of the Mill owners were awarded damages for the drastic curtailment of the waters of the Sucker Brook due to the excavation of the Heights Reservoir, Theodore received \$6,024.16. Charles Schwamb, on the other hand, still riding the crest of the vastly popular oval frame business, received \$11,587.58. In 1875, *The Arlington Advocate* noted that Charles Schwamb had acquired “a snug fortune” in his business. In October of that year, he organized a surprise party among his thirty-five mill workers to welcome his twenty-one-year-old son, Carl William, into his business as a partner. “The men in the establishment last Friday evening, despite the unfavorable state of the weather, marched in a body to the residence of Mr. Schwamb to congratulate the new firm.” The “residence” was an impressive new mansard-roof house, which Charles had recently constructed at what is now 22 Fessenden Street. What Carl William, an artistic young man, thought of joining a dusty business (it was apparent later that his lungs were delicate), is a good question.

But if he had to choose sawdust, rather than music, nevertheless, he remained a dutiful son and partner in the firm. He was the only son available at that time. When his only brother, Herbert Page, reached maturity 11 years later, he chose to go west to Denver. Within these limitations, Carl and his parents seemed to understand one another. He served as alternate organist, not only at the First Baptist Church where the family worshipped, but at various churches in the Heights and in Lexington. He was pianist for many years for the Sunday school of the First Baptist; and he designed music curriculum for the Arlington schools. Carl William died at the relatively early age, of 57 in 1912; yet for many decades thereafter a harpsichord stood on the third floor of the Mill as a reminder. In gratitude for Carl



In the middle : The Theodore Schwamb house as it looks today, without wrap-around porch. The photo shows the whole ensemble of historic buildings. Right to left: Former Theodore Schwamb Company Mill buildings, 1165-1167 Mass. Avenue (mid-19th/early 20th century) Theodore Schwamb house, 1171 Mass. Ave.; (c. 1845); and the Kimball Farmer house, 1173 Mass Ave. (c. 1828).

William’s contributions to the First Baptist Church in Arlington Center, the parish gave him an intricately carved square piano, an instrument which has been lovingly restored in the family of his granddaughter, Dorothy Sweet Forman, of Macomb, Illinois.

In 1879, the market for oval frames collapsed as square frames became the fashion. To the array of modern equipment Charles already had — rotary planers, band saws, circular saws and jigsaws, boring machines used for dowelling, and common and eccentric turning lathes — he now installed a molding machine, capable of being set to finish any possible design for straight stock, and to fashion any contour a frame maker might want. An enlarged second floor was added to accommodate the long lengths of stock. Charles was also helped with orders subcontracted from his brother, Jacob, who had for several years been operating in his own Mill at 1033 Mass. Avenue next to the building that is today Stop and Shop Pharmacy. (Not until 1919 did this parcel go out of Schwamb hands, when it was sold to a manufacturer of electric repair parts, and carbon and metal brushes used in automobiles.

The Advocate reported that “The building is of the olden time construction and the timbers are put together with wooden pins, heavy timbers being used and many of them, quite a contrast to the buildings of today”. In recent years, several nostalgic mill enthusiasts have looked for this treasure, only to leave again cursing the brick-cube apartment building which

has replaced it.)

In the early 1890s, America experienced a severe economic panic, followed by a prolonged recession. It is therefore surprising to read that the Theodore Schwamb Company saw constant growth, both in the 1890s and in the first years of the new century. In 1898, the year after its incorporation, the Company was the largest single business in Arlington. Directors were Peter Schwamb, Treasurer, Philip Eberhardt, Clerk and Assistant Superintendent, and Jacob Bitzer, Head of the shop. New property was purchased behind the Mill in 1905. In the same year, a narrow-gauge spur railroad track was added, linking the firm to the railroad and enabling the company to receive and deliver almost in the manner of a private railroad.

Among the new structures, the largest was the four-story brick building, which today still bears uppermost on its facade the words, THEODORE SCHWAMB CO., ready for the passers-by of the twenty-first century.

As the middle class began to upscale its musical tastes in the new century, the vogue for upright pianos gave way to the aspiration for a grand piano. Theodore Schwamb Co. followed the trend, which required not only skill but speed and coordination in gluing veneers to its fine hardwoods. As the new century dawned, however, the first generation seemed suddenly to have grown quite venerable. At Charles Schwamb and Son Co., the heir apparent, Carl William, was on a protracted stay in Denver to improve his health. At the Mill,

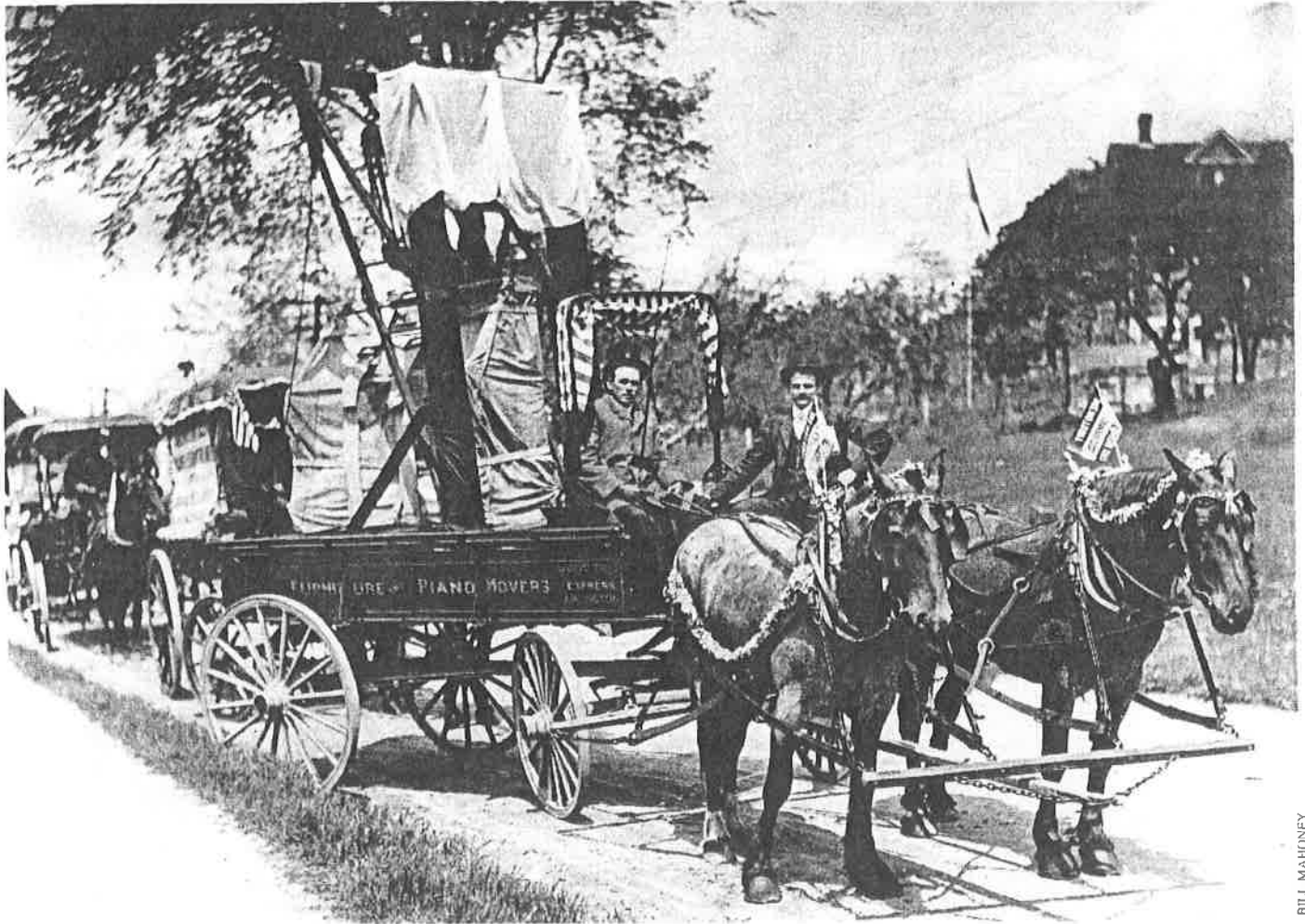
shop superintendent, John Frederick Bitzer, oldest brother of Jacob Bitzer, carried on as he had for 36 years. One cannot see how much sales work could have been going on.

For Charles, by nature an energetic entrepreneur, looking back from the vantage of 1900 must have been daunting. Of the nine children born to him and to Jane Hinton, seven were dead. Two sons and a daughter died shortly after birth; but the unthinkable happened from 1884 to 1891. His four grown daughters, lovely young women if one may judge from their photos, all died, one after another in successive years. Evidence strongly suggests a family tendency to tuberculosis, though the only written evidence concerns their youngest daughter, Jennie Louise Schwamb Wyman, who had recently given birth to a daughter. Two weakening bouts of pneumonia are mentioned, one before and one after the baby's birth (the baby also died within a few months). When Charles Schwamb died in 1903 at the age of seventy-six, his faithful superintendent, John

Frederick Bitzer, resigned immediately and joined his youngest brother, Jacob Bitzer, at Theodore Schwamb, where he remained for the rest of his professional life.

When Carl William returned from Denver he found the mill almost without business and he retired in 1905. This is the point at which the Schwamb energy sprang up again: his two sons, Clinton W., 26, and Louis, 19, suddenly acquired a frantic determination to save their Mill. In 1907 under the new name of "Clinton W. Schwamb and Co.," they hoisted the red, white and blue bunting to the Mill's facade for the Centennial Celebration of the town's independent status. Under the company's name were emblazoned the words, "OLDEST OVAL FRAMEMAKER IN NEW ENGLAND." The firm was old – the partners were young! Clinton and Louis were not shy about invoking antecedents, if it served their purpose. The entrepreneur knows how to pick himself up because risks involve falls, and entrepreneurship is risky. Over years of hard work, Clinton

and Louis brought the Mill back to prosperity. Clinton's son, Elmer Schwamb, was born in 1904 and is now 100 years old. He is living with his son, Wayne, in Fulton, Missouri. When talking to Patricia Fitzmaurice in earlier years, Elmer remembered how hard his father and uncle worked to save and restore the Mill; and how he himself entered the business in the 1920s, traveling the length the East Coast on sales trips. The Mill stayed profitable and Elmer even added a niche partnership called "Elwayne" involving his son Wayne for the production of specialty frames. In the end, it was the advent of molded plastic and the ever-worsening quality of lumber that forced Elmer Schwamb, after the death of his Uncle Louis, in 1967, and of Clinton in 1968, to sell what was to become the Old Schwamb Mill. The buyer had plans to raze the building and blacktop the lot for parking. But luckily Patricia Fitzmaurice, who was already an ardent preservationist, happened by on her bicycle one fall day and learned the plans. She saw the historic exterior, and even more surprising, the incredible array of period tools



BILL MAHONEY

June 1, 1907: The Wood Bros. Piano Movers' Express wagon is in line on Lowell Street in Arlington Heights waiting to take part in the Centennial Parade, probably the biggest parade in the history of the town. "It looks like an upright piano is on the back with a derrick on the hitch", wrote Leonard Collins in *The Advocate* in 1971. "The driver is a gentleman known as Joe Forest. His partner is Mr. Wood, the owner of the business."



The Zion Evangelical German Lutheran Church in Boston's South End, as it looks today. This Greek Revival brick building opened its doors on Christmas Day, 1847. Jacob Schwamb was a co-founder of the church. It is on Shawmut Avenue at Waltham Street and predates the graceful row houses of the era of the residential squares. The building was a Syrian restaurant when the area had a middle-eastern population, but has been used only for storage since at least the 1970s. Notice the church-like double entrance and the long windows, now partially boarded up.

and machines within. With the help of a small group of concerned Arlingtonians, she started the process that would result in the creation of a working museum, the Old Schwamb Mill, now in operation for thirty-five years.

Theodore Schwamb died in 1909. The piano-case business began to lag with the increasing interest in recordings, and especially with the advent of the radio in the early 1920s. Peter Schwamb retired in favor of Philip Eberhardt in 1924 and died unexpectedly in 1928 in the midst of his family at his house at 33 Academy Street. When Philip Eberhardt sold the business to the Nickerson family in 1931, the company name of Theodore Schwamb was retained. A decision was made to switch products to high-end architectural woodworking. This was a felicitous decision, given the extensive interior areas available and the skills, particularly of Italian workers, in the area. During the next forty-plus years, the Theodore Schwamb Co. became known nationwide for large projects of interior wood paneling and woodcarving.

Their work included elaborate projects for Yale University in New Haven; for the Tryon Palace at New Bern, North Carolina; for the original John Hancock Building in Boston and at the Harvey Firestone Library at Princeton, N.J.

The firm of Cascieri di Biccari (the late Archangelo Cascieri, Dean of the Boston Architectural Center and Adio di Biccari, Arlington sculptor) opened a studio at Theodore

Schwamb. Over four decades, this firm produced a wealth of carving and sculpture, including the exquisite Cascieri carvings for Marsh Chapel at Boston University; and the di Biccari sculpture ensemble opposite West Street on the Boston Common. One photo, taken in Arlington at the Schwamb Studio in the 1950s, shows a giant sculpture of St. Clement. The ponderous saint lies prone on a truck, having made it through of the wide doors of the Schwambs' most attractive structure, a small, classic brick building with brick detail, a building still extant today at 1167 behind the old homestead. After arriving safely at his Brighton destination, St. Clement was hoisted to very top of the facade of St. John Seminary.

The fact that such buildings still exist is to the credit of the Mirak family, a long-time Arlington family whose firm has specialized since 1936 in dealerships and service of cars and trucks. Recently, the firm developed a residential complex in Arlington Center called "The Legacy." Robert Mirak recently commented that "when my father, John Mirak, purchased the property in the 1970s, some of his colleagues suggested tearing down the buildings to make way for another dealership or a major shopping center. My father decided to keep the buildings and used the property to store excess auto inventory. In addition, he liked the looks of the buildings and especially the handsome red brick and the colonial windows. From that time to the present, my father and in succession, the family has upgraded the buildings. Inside,

over the decades, we have upgraded floors and brickwork. Specifically, the original wood flooring, which was blackened by use, was cleaned, sanded and urethaned to a handsome finish. Also, a number of walls were sandblasted to remove the paint on the brick; the results were sparkling."

At this Theodore Schwamb complex, it is gratifying to see how many small businesses have found a home: the Image Inn has run a photographic studio there since 1982, specializing in the rare skills and patience required by traditional techniques; the architectural firm of Rovinelli is upstairs at 1167; and there are many individual artists in residence at the large complex at 1165.

The Charles Schwamb Mill at 17 Mill Lane did not grow as large as the Theodore Schwamb Company, and it was never as visible, either. But however much the market fluctuated, Charles Schwamb and his descendants never gave up making fine oval frames. Amidst the final commercial years of competition from inferior wood and plastics, the Mill continued this work, as it does today, thanks to the late Patricia Fitzmaurice and her supporters. In the end, the Old Schwamb Mill can lay claim to having endured, both as living history and as a working Mill. All three brothers, Theodore and Charles and Jacob, could be proud that their generation of immigrants achieved so much that is still treasured in Arlington today.

By Grace Dingee, Mill Historian

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In the middle : The Theodore Schwamb house as it looks today, without wrap-around porch. The photo shows the whole ensemble of historic buildings. Right to left: Former Theodore Schwamb Company Mill buildings, 1165-1167 Mass. Avenue (mid-19th/early 20th century) Theodore Schwamb house, 1171 Mass. Ave.; (c. 1845); and the Kimball Farmer house, 1173 Mass Ave. (c. 1828).

William’s contributions to the First Baptist Church in Arlington Center, the parish gave him an intricately carved square piano, an instrument which has been lovingly restored in the family of his granddaughter, Dorothy Sweet Forman, of Macomb, Illinois.

In 1879, the market for oval frames collapsed as square frames became the fashion. To the array of modern equipment Charles already had — rotary planers, band saws, circular saws and jigsaws, boring machines used for dowelling, and common and eccentric turning lathes — he now installed a molding machine, capable of being set to finish any possible design for straight stock, and to fashion any contour a frame maker might want. An enlarged second floor was added to accommodate the long lengths of stock. Charles was also helped with orders subcontracted from his brother, Jacob, who had for several years been operating in his own Mill at 1033 Mass. Avenue next to the building that is today Stop and Shop Pharmacy. (Not until 1919 did this parcel go out of Schwamb hands, when it was sold to a manufacturer of electric repair parts, and carbon and metal brushes used in automobiles.

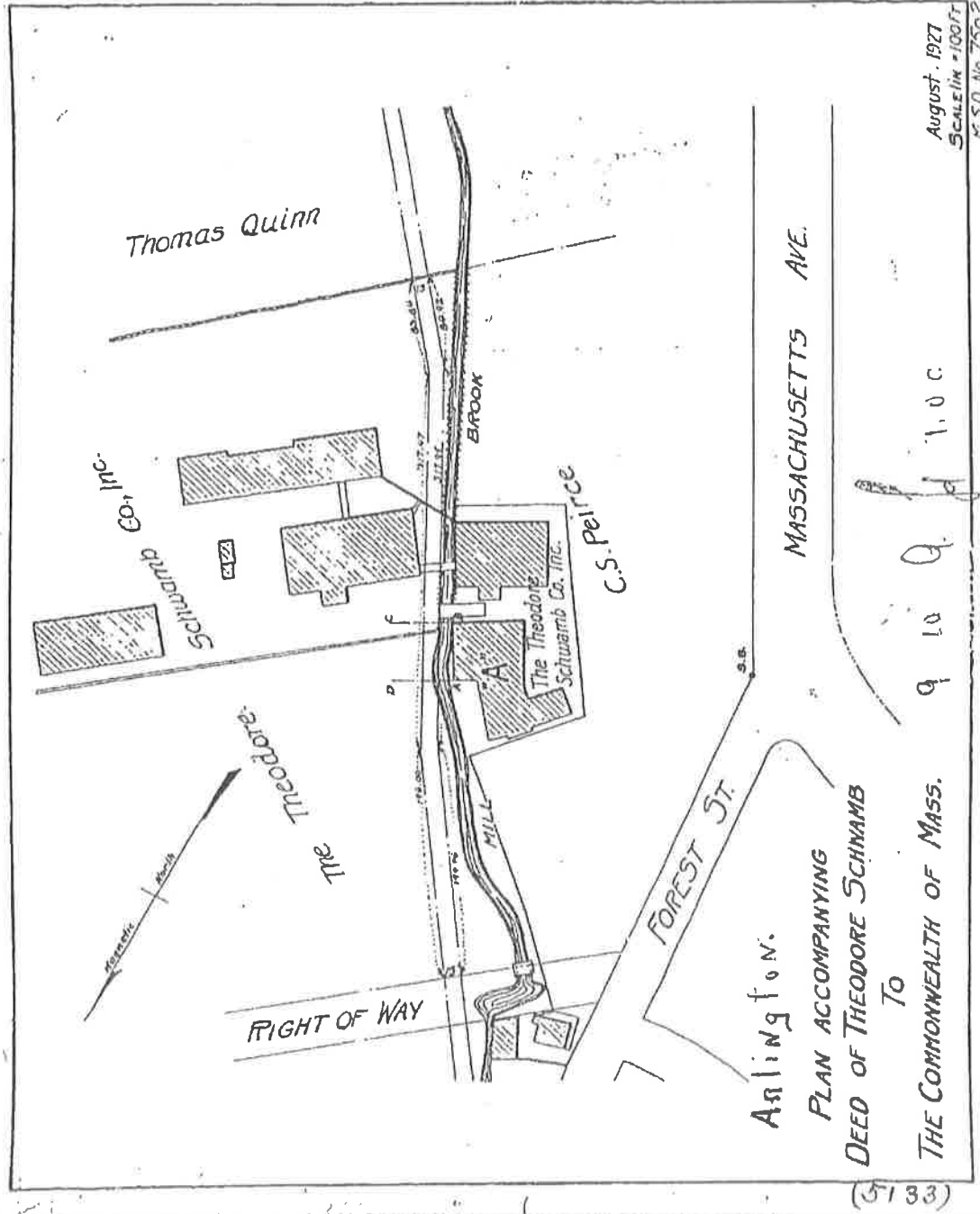
The Advocate reported that “The building is of the olden time construction and the timbers are put together with wooden pins, heavy timbers being used and many of them, quite a contrast to the buildings of today”. In recent years, several nostalgic mill enthusiasts have looked for this treasure, only to leave again cursing the brick-cube apartment building which

has replaced it.)

In the early 1890s, America experienced a severe economic panic, followed by a prolonged recession. It is therefore surprising to read that the Theodore Schwamb Company saw constant growth, both in the 1890s and in the first years of the new century. In 1898, the year after its incorporation, the Company was the largest single business in Arlington. Directors were Peter Schwamb, Treasurer, Philip Eberhardt, Clerk and Assistant Superintendent, and Jacob Bitzer, Head of the shop. New property was purchased behind the Mill in 1905. In the same year, a narrow-gauge spur railroad track was added, linking the firm to the railroad and enabling the company to receive and deliver almost in the manner of a private railroad. Among the new structures, the largest was the four-story brick building, which today still bears uppermost on its facade the words, THEODORE SCHWAMB CO., ready for the passers-by of the twenty-first century.

As the middle class began to upscale its musical tastes in the new century, the vogue for upright pianos gave way to the aspiration for a grand piano. Theodore Schwamb Co. followed the trend, which required not only skill but speed and coordination in gluing veneers to its fine hardwoods. As the new century dawned, however, the first generation seemed suddenly to have grown quite venerable. At Charles Schwamb and Son Co., the heir apparent, Carl William, was on a protracted stay in Denver to improve his health. At the Mill,

5133/75



August, 1927
SCALE IN = 100 FT.
M.S.D. No. 7502

Arlington.

PLAN ACCOMPANYING

DEED OF THEODORE SCHWAMB

TO

THE COMMONWEALTH OF MASS.

9 10 Q. 1.0 C.

MASSACHUSETTS AVE.

FOREST ST.

C.S. Peirce

The Theodore
Schwamb Co. Inc.

Schwamb
Co. Inc.

Thomas Quinn

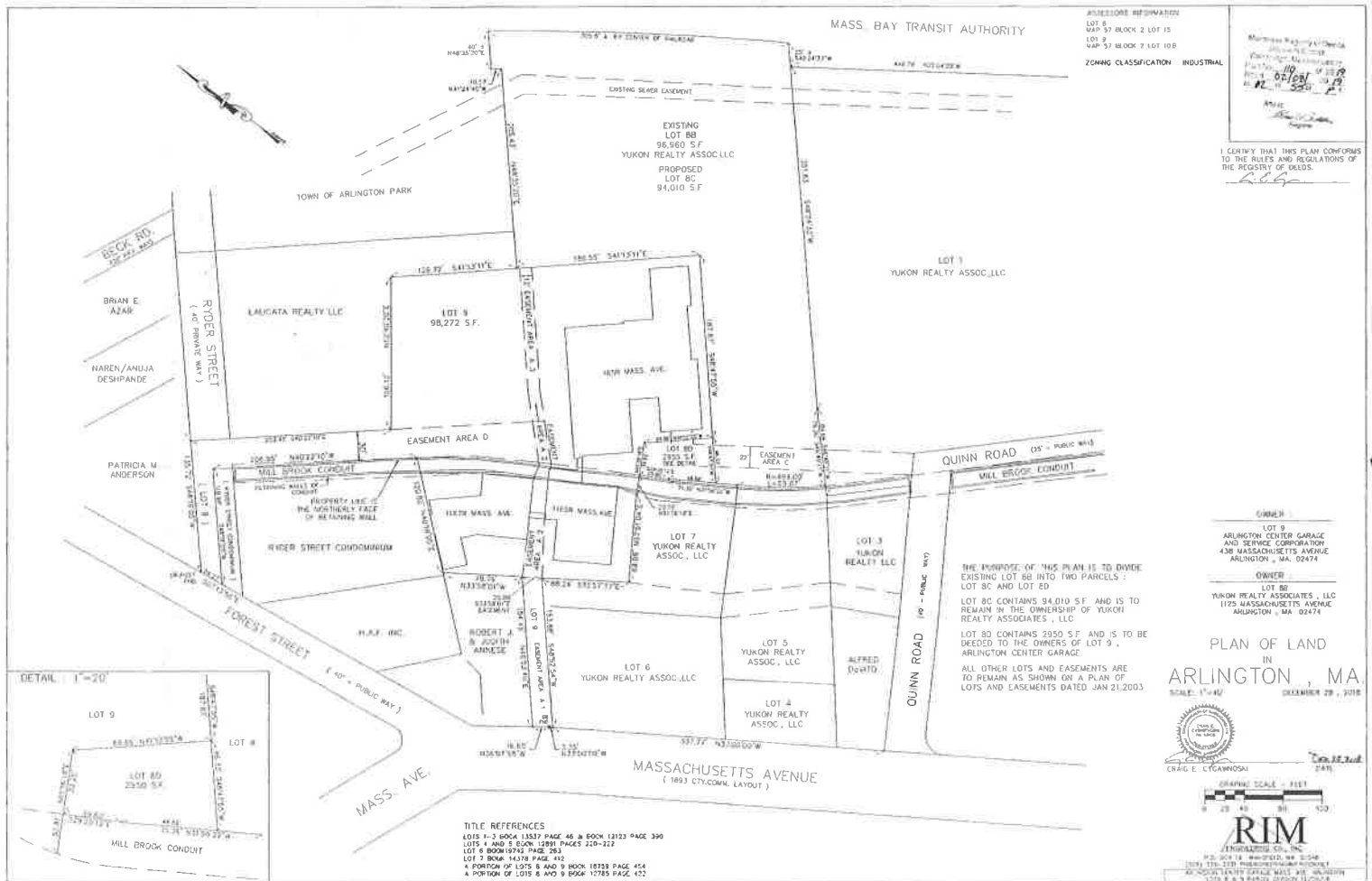
RIGHT OF WAY

Theodore
Schwamb

MILL

BROOK

(5133)



110 of 2019

September 9, 2020

Arlington Conservation Commission
730 Massachusetts Ave.
Arlington, MA 02476

Re: Photos of Mapped Stream Locations
Supplement to Request for Determination of Applicability
1165-1167 Mass Ave. & 0 Ryder Street - Arlington, MA

1. Introduction

Goddard Consulting, LLC (Goddard), is pleased to submit photographs documenting the absence of streams or freshwater wetlands upgradient of the drainage ditch known as "Ryder Brook." This information is being submitted on behalf of "1165R Mass Ave MA Property LLC." This information is being submitted upon request of the Commission based on comments during the public hearing for an RDA on September 3, 2020. This document provides additional information from the original document titled "Drainage Ditch Analysis," dated August 10, 2020.

2. Methods

The USGS StreamStats website shows two streams coalescing south of Edmund Road and then connecting to Mill Brook in the vicinity of the subject property (Figure 1).

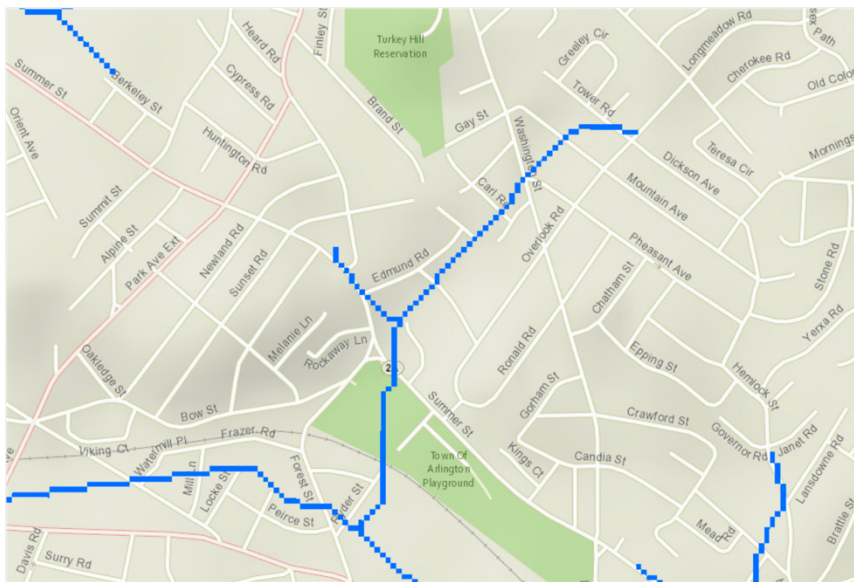


Figure 1 - StreamStats map view of streams flowing into Mill Brook.

On September 9, 2020 I walked on all publicly accessible routes in the vicinity of where the StreamStats map shows these streams to be located. Figure 2 shows the location of the walked route and numbered photograph locations. A GPS was used to track the route.

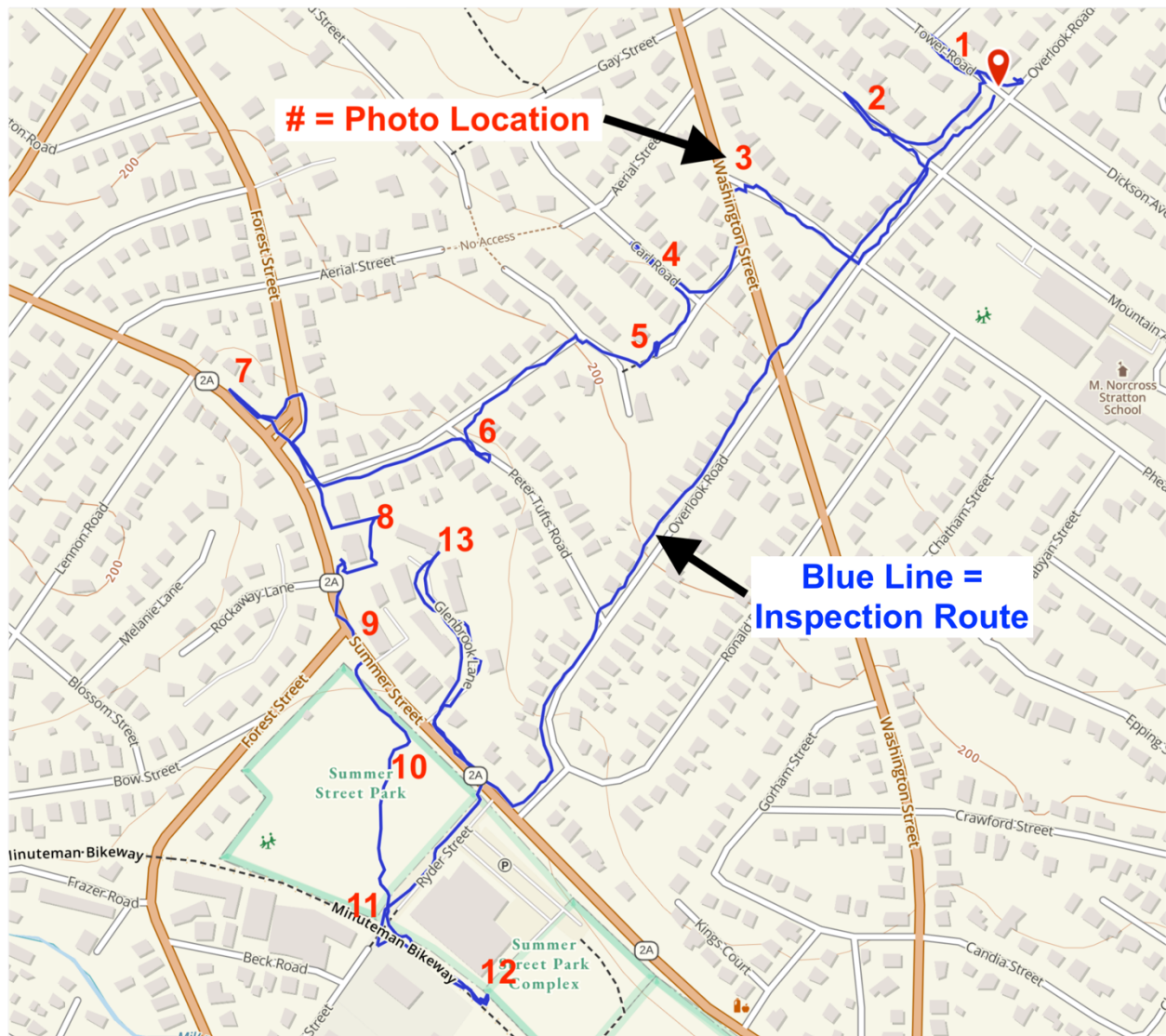


Figure 2 - Map showing the route walked for inspecting areas for presence of wetlands or streams.

3. Photos Showing No Stream or Wetlands at Numbered Locations



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13

If there are any questions concerning this submission, please do not hesitate to contact me.

Sincerely,

Goddard Consulting, LLC

by 

Dan Wells, M.S.
Senior Wildlife Biologist & Wetland Scientist



Town of Arlington, Massachusetts

Request for Certificate of Compliance

Summary:

Request for Certificate of Compliance: 12 Clyde Terrace

MassDEP File #091-0274

The project as approved proposed to raze an existing single family home and replace it with a single-family home in the 100-ft wetlands buffer and AURA of an isolated wetland. The project was approved on 06/19/2017.

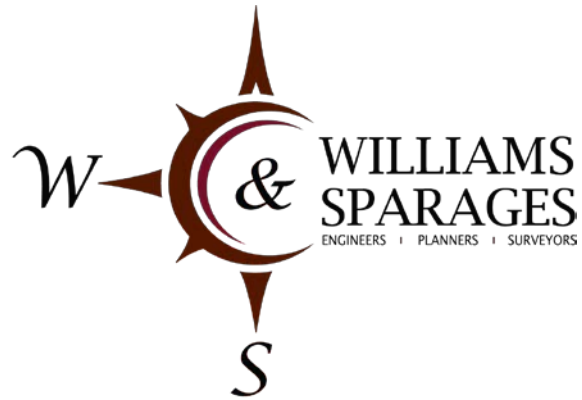
ATTACHMENTS:

Type	File Name	Description
Request for Certificate of Compliance	12_Clyde_Terrace_COC_Request.pdf	12 Clyde Terrace COC Request
Request for Certificate of Compliance	12_Clyde_Terrace_OOC.pdf	12 Clyde Terrace OOC
Request for Certificate of Compliance	12-Clyde-Modification_Modification_R2.pdf	12 Clyde Terrace Modified Planting Plan_Approved
Request for Certificate of Compliance	12_Clyde_Terrace_COC_Internal_Checklist.pdf	12 Clyde Terrace COC Internal Checklist

Project No. **ARLI-0021**

May 27, 2020

Arlington Conservation Commission
Attn: Emily Sullivan, Director
730 Mass Ave. Annex
Arlington, MA 02476



Subject: DEP File Number 091-274
Certificate of Compliance Request
12 Clyde Terrace

Dear Commission Members,

Our office was contracted to assist Seaver Construction with the filing of a Request for a Certificate of Compliance (COC) for DEP File Number 091-274.

On June 7, 2017 a Notice of Intent was filed to construct a single-family dwelling on the above referenced property.

On June 19, 2017 an Order of Conditions, (OOC), was issued approving the project. This Order was recorded at the Registry of Deeds in Book 69770, Page 550.

On October 15, 2018 a Notice of Non-Compliance was issued by the Arlington Conservation Commission because there was a deviation from the planting plan that was approved in the OOC.

On October 17, 2018 a Minor Modification Request was submitted to the ACC requesting to modify the approved planting plan and to make some other minor modifications to the approved plan.

At its January 3, 2019 meeting, the ACC voted to approve and accept the revised planting plan for 12 Clyde Terrace prepared by Williams & Sparages LLC, dated October 19, 2018 and revised thru January 4, 2019.

On September 4, 2019 we met with the landscape contractor and Conservation Agent to discuss the restoration of the 25 foot no disturb zone. During our site visit we identified a shed that was placed in the rear of the property that was not shown on the approved permit site plan.

It is our understanding that the new property owner worked with the ACC to relocate the shed to a more suitable location that would allow the applicant to move forward with a COC request.

With the exception of the required three (3) year monitoring of the plantings that is detailed in Special Condition 37 of the OOC, we hereby certify that the work was completed and is in substantial compliance with the OOC and the Minor Modification Request.



Please find attached a WPA Form 8A – Request for Certificate of Compliance, \$200.00 filing fee and as-built plan with the required certification statement detailed in Special Condition 46 of the OOC. I hereby certify that the project was done in substantial compliance with the OOC and Minor Modification Request and recommend that the ACC issue a Certificate of Compliance.

If you have any questions regarding this information please do not hesitate to contact our office. We look forward to discussing this request with your Commission at your next scheduled public hearing.

Sincerely,

WILLIAMS & SPARAGES LLC



Greg J. Hochmuth, RS, PWS, CWS
Project Manager

cc: Dana Tower, Seaver Construction
MassDEP NERO





Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 8A – Request for Certificate of Compliance

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

091-274

Provided by DEP

A. Project Information

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Upon completion of the work authorized in an Order of Conditions, the property owner must request a Certificate of Compliance from the issuing authority stating that the work or portion of the work has been satisfactorily completed.

1. This request is being made by:

Seaver Construction

Name

215 Lexington Street

Mailing Address

Woburn

City/Town

781-569-5519

Phone Number

MA

State

01801

Zip Code

2. This request is in reference to work regulated by a final Order of Conditions issued to:

Seaver Construction

Applicant

June 19, 2017

Dated

091-274

DEP File Number

3. The project site is located at:

12 Clyde Terrace

Street Address

108-2-15

Assessors Map/Plat Number

Arlington

City/Town

Parcel/Lot Number

4. The final Order of Conditions was recorded at the Registry of Deeds for:

Property Owner (if different)

Middlesex

County

69770

Book

550

Page

Certificate (if registered land)

5. This request is for certification that (check one):

☒ the work regulated by the above-referenced Order of Conditions has been satisfactorily completed.

☐ the following portions of the work regulated by the above-referenced Order of Conditions have been satisfactorily completed (use additional paper if necessary).

☐ the above-referenced Order of Conditions has lapsed and is therefore no longer valid, and the work regulated by it was never started.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 8A – Request for Certificate of Compliance

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

091-274

Provided by DEP

A. Project Information (cont.)

6. Did the Order of Conditions for this project, or the portion of the project subject to this request, contain an approval of any plans stamped by a registered professional engineer, architect, landscape architect, or land surveyor?

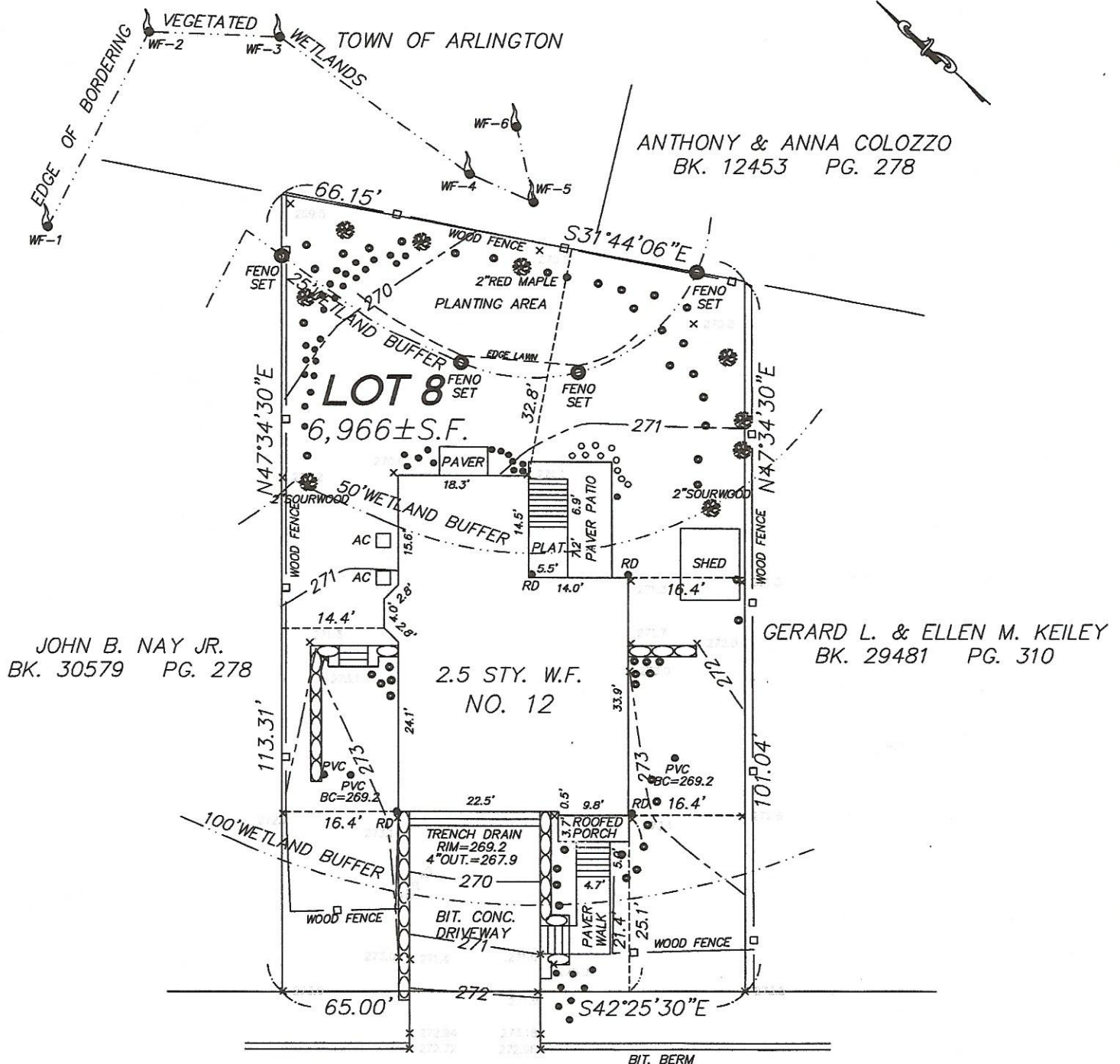
☒ Yes

If yes, attach a written statement by such a professional certifying substantial compliance with the plans and describing what deviation, if any, exists from the plans approved in the Order.

☐ No

B. Submittal Requirements

Requests for Certificates of Compliance should be directed to the issuing authority that issued the final Order of Conditions (OOC). If the project received an OOC from the Conservation Commission, submit this request to that Commission. If the project was issued a Superseding Order of Conditions or was the subject of an Adjudicatory Hearing Final Decision, submit this request to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html>).



- TREE
- SHRUB
- FLOWER
- SMALL SHRUB

AC AIR CONDITIONING UNIT
RD ROOF DRAIN
S.F. SQUARE FEET
PLAT. PLATFORM
BIT. BITUMINOUS
CONC. CONCRETE
STY. STORY
W.F. WOOD FRAME
BC BOTTOM CHAMBER

GRADES:
FIRST FLOOR=278.3
BASEMENT=269.5
GARAGE=269.3
PEAK=307.4
MAX. PEAK ALLOWED=308.3
USABLE OPEN SPACE=2199 S.F.
IMPERVIOUS=2114 S.F.

NOTE: I CERTIFY THAT THE AS BUILT
CONDITIONS COMPLY WITH THE PLANS
REFERENCED IN THE ORDER OF CONDITIONS
RECORDED IN BOOK 69770 PAGE 550.

4-20-20
DATE

John R. Keenan
P.L.S.

NOTE: FOR PLAN SPECIES, SEE "PLAN TO
ACCOMPANY A MODIFICATION REQUEST" IN
ARLINGTON, MA. PREPARED BY WILLIAMS
SPARGES AND DATED JANUARY 4, 2019 (REVISION DATE).

I CERTIFY THAT THE BUILDING IS
LOCATED AS SHOWN AND COMPLIES
WITH THE SETBACK REQUIREMENTS.

AS BUILT PLAN OF LAND
IN
ARLINGTON, MASS.
SCALE: 1 IN. = 10 FT. JULY 9, 2018
REVISED: JANUARY 17, 2020

KEENAN 5381350
8 WINCHESTER PLACE, SUITE 208
WINCHESTER, MASS. 01890
781-729-4213



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

91-0274

MassDEP File #

eDEP Transaction #

Arlington

City/Town

A. General Information

Please note:
this form has
been modified
with added
space to
accommodate
the Registry
of Deeds
Requirements

Important:
When filling
out forms on
the
computer,
use only the
tab key to
move your
cursor - do
not use the
return key.



1. From: Arlington
Conservation Commission

2. This issuance is for
(check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

Scott

a. First Name

Seaver

b. Last Name

Seaver Construction

c. Organization

215 Lexington Street

d. Mailing Address

Woburn

e. City/Town

MA

f. State

01801

g. Zip Code

4. Property Owner (if different from applicant):

Margaret

a. First Name

Papagni, Trustee

b. Last Name

12 Cyde Terrace Trust

c. Organization

12 Clyde Terrace

d. Mailing Address

Arlington

e. City/Town

MA

f. State

02474

g. Zip Code

5. Project Location:

12 Clyde Terrace

a. Street Address

Arlington

b. City/Town

108-2-15

c. Assessors Map/Plat Number

d. Parcel/Lot Number

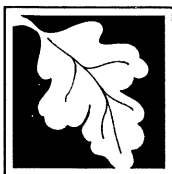
Latitude and Longitude, if known:

42d43m53s

d. Latitude

-71d17m33s

e. Longitude



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

91-0274

MassDEP File #

eDEP Transaction #

Arlington

City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
Middlesex
a. County
56793
c. Book
b. Certificate Number (if registered land)
294
d. Page
7. Dates: June 7, 2017 June 15, 2017 June 19, 2017
a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
Landscaping Plan in Arlington Mass
a. Plan Title
Keenan Survey
b. Prepared By
May 4, 2017
d. Final Revision Date
c. Signed and Stamped by
1 in = 10 ft
e. Scale
f. Additional Plan or Document Title
g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

- a. ☐ Public Water Supply b. ☐ Land Containing Shellfish c. ☒ Prevention of Pollution
d. ☐ Private Water Supply e. ☐ Fisheries f. ☒ Protection of Wildlife Habitat
g. ☒ Groundwater Supply h. ☒ Storm Damage Prevention i. ☒ Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
Order of Conditions under
Arlington Wetlands Protection Bylaw **ONLY**

Provided by MassDEP:
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Arlington
City/Town

B. Findings (cont.)

Denied because:

- b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. ☒ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) 0
a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	a. square feet e. c/y dredged	b. square feet f. c/y dredged	c. square feet	d. square feet
7. <input type="checkbox"/> Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. <input type="checkbox"/> Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



Massachusetts Department of Environmental Protection
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B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. <input type="checkbox"/> Coastal Dunes	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. <input type="checkbox"/> Coastal Banks	a. linear feet	b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	a. square feet	b. square feet		
17. <input type="checkbox"/> Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. <input type="checkbox"/> Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



Massachusetts Department of Environmental Protection
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B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. ☐ Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. ☐ Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on n/a unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
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eDEP Transaction #
Arlington
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number 091-274 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
Order of Conditions under
Arlington Wetlands Protection Bylaw **ONLY**

Provided by MassDEP:
91-0274
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City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
 - (1) ☒ is subject to the Massachusetts Stormwater Standards
 - (2) ☐ is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See attached Special Conditions #21-46

This Order of Conditions is issued only under the Arlington Wetlands Protection Bylaw.

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No
2. The Arlington hereby finds (check one that applies):
Conservation Commission

- a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. ☒ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

Arlington Bylaw for Wetlands Protection

Title V, Art 8

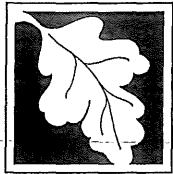
1. Municipal Ordinance or Bylaw

2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See attached Special Conditions #21-46



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

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E. Signatures

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

June 19'17

1. Date of Issuance

Five

2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy must be mailed, hand delivered or filed electronically at the same time with the appropriate MassDEP Regional Office.

Signatures:

[Handwritten signatures of three individuals]

☒ by hand delivery on

June 19'17

Date

☐ by certified mail, return receipt requested, on

Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request of Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



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G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Arlington Conservation Commission, 730 Massachusetts Ave., Arlington, MA 02476
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Arlington
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

12 Clyde Terrace, Arlington, MA 02474
Project Location

091-274
MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

ARLINGTON CONSERVATION COMMISSION
ORDER OF CONDITIONS –12 CLYDE TERRACE DEP FILE NO. 91-274
REDEVELOPMENT

Referenced Documents and Plans

The following Documents and Plans are hereby incorporated into this Order. To the extent that the provisions and conditions in this Order differ from those in these documents, this Order shall control:

1. Letter dated June 28, 2016, from Mark A. Sleger, P.E., to Scott Seaver, with stormwater calculations and stormwater management information, 13 pages.
2. Construction Period Stormwater Operation and Maintenance Plan, Site Redevelopment, 12 Clyde Terrace, Arlington, MA, 5 pages, undated, received at 8/4 meeting.
3. Post-construction Stormwater Operation and Maintenance Plan, Site Redevelopment, 12 Clyde Terrace, Arlington, MA, 4 pages, undated, received at 8/4/16 meeting and incorporated by reference.
4. Plan titled Existing Conditions Plan, in Arlington, MA, for 12 Clyde Terrace, prepared by James Richard Keenan, stamped PLS# 30751, Keenan Survey, 8 Winchester Place, Suite 208, Winchester, MA 01890, prepared for Scott Seaver, Seaver Construction, 215 Lexington St, Woburn, MA 01801, dated 5/5/16, revised 7/25/16, scale 1 inch = 10 feet, submitted at August 4, 2016 hearing.
5. Permit Denial issued by the Commission dated August 24, 2016 for DEP File No. 091-274.
6. Superseding Order of Conditions issued February 21, 2017, for DEP File No. 091-274.
7. Complaint and Petition for Certiorari with Civil Action Cover Sheet and Scheduling Order filed by Attorney Matthew Watsky on behalf of Seaver Construction, postmarked January 11, 2017. Complaint filed October 20, 2016.
8. Notice of Intent under Bylaw only for work at 12 Clyde Terrace, Arlington, MA, signed June 7, 2017, filed June 7, 2017, by Applicant: Scott Seaver of Seaver Construction, 215 Lexington St., Woburn, MA, 01801 and Representative: Mary Trudeau of Lexington, MA, including 5-page "Description of Work, Notice of Intent Filing."
9. Landscaping Plan in Arlington Mass, produced by Keenan Survey, July 19, 2016, revised May 4, 2017.
10. Installation instructions for FENO Anchored Survey Markers by Berntsen

Findings, Facts, and Proceedings under
Town of Arlington Wetlands Protection Bylaw

After duly noticed public hearings, the Commission makes the following findings of facts and law:

ARLINGTON CONSERVATION COMMISSION
ORDER OF CONDITIONS –12 CLYDE TERRACE DEP FILE NO. 91-274
REDEVELOPMENT

12 Clyde Terrace is an approximately 6,966 square feet developed residential property containing a 1,069-square foot single-family house in disrepair, paved driveway in front and in the rear an in-ground pool surrounded by concrete paving and pavers as well as landscaping and trees, and two sheds along the property line. The existing dwelling and paved surfaces constitute 3,829 square feet of impervious surface.

Existing trees and shrubs include native and non-native vegetation, such as an apple tree, hemlocks, cedar, rhododendron. These are shown on the Landscaping plan.

To the rear of the property (to the northeast) is a Bordering Vegetated Wetland, mostly on land owned by the Town of Arlington. The boundary of this wetland within 100 feet of the lot was delineated by Mary Trudeau in spring of 2016.

The proposed work consists of demolition of the existing house and deck, removal (filling in) of the in-ground swimming pool, removal of surrounding patio and two sheds, and rebuilding a new larger house and patio (the Project). The proposed house would have about 1,500 square foot footprint. In addition, a 14' x 10' patio with pervious pavers is proposed in the northeast corner of the proposed house. An approximately 700-square foot driveway would be on the southwest side of the lot. The Project would result in approximately 56% reduction in the impervious cover to 2,155 square feet on the lot.

The Commission finds that the project is mostly within 100 feet of the BVW, meaning it lies within the Adjacent Upland Resource Area (AURA), under the Town of Arlington Wetlands Protection Bylaw.

The existing house occupies 1,069 square feet of the area within 100 feet of BVW; the proposed house would occupy 1,355 square feet of the 100-ft zone. Including other impervious surfaces such as deck, pool, and patio, the existing impervious surface within 100 feet is 3,991 square feet. The project would reduce total impervious surface by about 56% to 2,173 square feet.

A "Habitat Mitigation Area" is shown on the plan submitted at the 5/18/17 hearing. The Habitat Mitigation Area in the rear of the lot occupies the entire area within 25 feet of the BVW.

The mitigation measures proposed include:

- a. Reducing the footprint of the proposed residence so as to move the house 1 foot further from the wetland;
- b. Deck in previous design replaced by patio to be built with pervious pavers;
- c. Installation and maintenance of erosion and sedimentation controls throughout construction between the work and the BVW;
- d. Removal of existing sheds, pool, and patio within 100 feet of BVW;
- e. Infiltration of roof runoff through a proposed subsurface infiltration unit;

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REDEVELOPMENT

- f. Installation of 3 Shadblow Serviceberry, 3 Silky Dogwood, 3 Rhododendron, 4 Inkberry bushes, 1 Eastern Redbud and 2 Red Cedars;
- g. Removal of trash and debris from back of the lot and are within 25 feet of the lot on adjacent Town of Arlington land which the Applicant stated is likely related to the tenure of the prior occupants at 12 Clyde Terrace, and plant plugs from New England Wetland Plants; and
- h. Placement of permanent bounds at edges of a proposed Habitat Mitigation Area.

The Commission opened the hearing for the prior NOI on June 16, 2016, and it was continued to July 14, 2016, July 21, 2016, August 4, 2016, and August 18, 2016 when it was closed. The Commission deliberated on August 18, 2016 and then voted to deny the project, 4-2, with one Commission member ineligible to vote. Commissioners Nonni, Tirone, White, and White voted in favor of the motion to deny; Commissioners Chapnick and Connors voted in opposition to the motion to deny; and Commissioner Stevens was not eligible to vote as he had missed at least one hearing.

The Commission conducted a site visit on July 13, 2016 with the Applicant and his representative, and, with the Applicant's permission, Commission members also visited the site on their own, individually.

The Commission issued a Permit Denial under the Act and Bylaw on August 24, 2016.

Mary Trudeau, on behalf of the applicant, filed with DEP for a Superseding Order of Conditions on September 2, 2016, citing inconsistency with the regulations promulgated for the Wetlands Protection Act.

The Massachusetts Department of Environment Wetlands Program issued a Superseding Order of Conditions on February 21, 2017 for DEP File No. 091-274.

Pursuant to a settlement agreement between Seaver and the Commission to resolve the Superior Court lawsuit, the Applicant filed a Notice of Intent under the Bylaw only on June 7, 2017.

The Commission opened the hearing on the Notice of Intent filed under the Bylaw only on June 15, 2017. It closed the hearing on the same evening and then deliberated.

The Commission finds that the Resource Areas on the Property are significant to the Resource Area values protected by the Bylaw, as specified in the Bylaw Regulations for each Resource Area.

Based on the testimony at the public hearings, and review of the application materials and the documents listed above submitted during the public hearings, the Commission concludes that while the proposed project will alter Resource Areas under the Bylaw, the work as conditioned will not have significant or cumulative effects upon the resource area values of the Arlington Wetlands Bylaw and the conditions imposed will protect these Resource Area values.

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REDEVELOPMENT

The Commission finds that the proposed project, with the conditions below, meets the performance standards in the Bylaw Regulations.

Based on the foregoing, the Commission voted unanimously to approve the project under the Arlington Wetlands Bylaw subject to the following additional special conditions contained herein.

Special and/or Bylaw Conditions

Conditions 1-20 are the General Conditions on pages 4 and 5 of WPA Form 5.

Additional Special Conditions

21. Work permitted by this Order and Permit shall conform to the Notice of Intent, plans and oral presentations (as recorded in hearing minutes) submitted by the applicant and the applicant's agents or representatives, as well as any plans and other data, information or representations submitted per these Conditions and approved by the Commission and which are listed above.
22. The provisions of this Order and Permit shall apply to and be binding upon the applicant and applicant's assigns, tenants, employees, contractors, and agents.
23. No work shall be started under this Order until all other required permits or approvals have been obtained.
24. The applicant shall ensure that a copy of this Order of Conditions and Permit for work, with any referenced plans, is available on site at all times, and that contractors, site managers, foremen, and sub-contractors understand its provisions.
25. Prior to starting work, the applicant shall submit to the Commission the names and 24 hour (emergency) phone numbers of project managers or other persons responsible for site work or mitigation.
26. During construction, the person responsible for on-site compliance shall submit a monthly status report to the Commission. This report shall include, but not be limited to: the status of construction, changes in the construction schedule, any erosion or pollutant problems and how those problems were resolved. The applicant shall be responsible for ensuring that this report is submitted as required.
27. The construction staging and construction access area shall take place at the existing driveway.
28. No heavy equipment may be stored overnight within 50 feet of the BVW. No refueling of machinery shall be done within 50 feet of BVW. No maintenance of machinery shall be allowed within the 100 feet of BVW.
29. All demolition debris shall be removed daily from the 100 foot Buffer Zone/Adjacent Upland Resource Area.

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30. All dumpsters must be covered at end of each work day and no dumpsters will be allowed overnight within 50 feet of BVW.
31. No uncovered stockpiling of materials shall be permitted overnight within 50 feet of BVW. The area described in the Notice of Intent for stockpiling (the paved driveway and non-jurisdictional area at the southeast corner of the property) is permitted.
32. In the event of discovery of hazardous materials on the site during excavation work, clean up of these materials shall conform to the requirements and standards of State law and regulations.
33. Tree protection (consisting of 2x4s and burlap) shall be installed on the large street tree (21 inch maple) and maintained throughout the construction period.
34. The contractor shall contact the Conservation Administrator (ConComm@town.arlington.ma.us; 781-316-3012) to arrange for a site walk to confirm the installation and placement of erosion controls prior to the start of any grading work.
35. Any dirt or debris spilled or tracked onto any paved streets shall be swept up and removed daily.
36. The Commission, its employees and its agents, with proper notification of the site supervisor, shall have the right of entry onto the site to inspect for compliance with the terms of this Order of Conditions and Permit.
37. Any plantings and landscaping within the 100-foot Buffer Zone shall conform to the Landscaping Plan in Arlington, MASS, and the following:
- (a) No plant materials shall be used of any species which appears on the Massachusetts Prohibited Plant list at <http://www.mass.gov/agr/farmproducts/prohibitedplantlist.htm>
 - (b) Fertilizers, pesticides, or herbicides shall not be used within 50 feet of the wetland, except as noted in (c) unless a specific need for treating a particular specimen or species has been demonstrated to the Commission, and permission has been granted.
 - (c) Fertilizers may be used at the time of installation of any plant materials, and once more within a year after planting.
 - (d) The minimum sizes for plantings shall be No. 1 pot for woody vegetation. All plantings shall comply with the American Nurseryman Standards;
 - (e) Native plant installations must be maintained and replaced, if necessary, for a minimum of 3 years from the planting date(s).
 - (f) A report shall be sent to the Commission annually indicating the reason for the die-off and recommending changes, if needed, to the species of vegetation planted to ensure survivability.
38. The Applicants shall provide 4 rebar markers bearing the words "habitat area," one at either end of the property line and two in between. **This condition shall not expire with the issuance of a Certificate of Compliance.**
39. The area on the lot within 25 feet of BVW shall be protected in perpetuity by having vegetation but not lawn

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REDEVELOPMENT

in this area. **This condition shall not expire with the issuance of a Certificate of Compliance.**

40. The contractor shall inform the first house buyer of the conditions imposed by the Conservation Commission.
41. Trash on adjacent Town-owned land that is within 25 feet of the project site shall be removed.
42. Plugs (of grasses/sedge/wildflower) from New England Wildflower shall be applied to areas disturbed on Town land where trash is removed.
43. The bottom of the fence at the north property line shall be at least 6" off the ground. **This condition shall not expire with the issuance of a Certificate of Compliance.**
44. The patio shall be built and maintained according to the following specifications:
- a. The patio shall be constructed using pervious pavers;
 - b. The stair and landing shall be constructed within the patio area;
 - c. Specifications for the pavers shall be provided to the Conservation Commission before construction.
- This condition shall not expire with the issuance of a Certificate of Compliance.**
45. Weepholes shall be included in proposed retaining walls on either side of house. **This condition shall not expire with the issuance of a Certificate of Compliance.**
46. When requesting a Certificate of Compliance for this Order of Conditions, the applicant must submit a written statement from a Massachusetts professional engineer, registered land surveyor, or registered landscape architect certifying that the completed work complies with the plans referenced in this Order, or provide an as-built plan and statement describing any differences.

Conditions 38, 39, 43, 44 and 45 are continuing conditions that remain in effect in perpetuity.



TOWN OF ARLINGTON

MASSACHUSETTS

CONSERVATION COMMISSION

COC Internal Checklist – Arlington Conservation Agent

Project Street Address: 12 Clyde Terrace

DEP File No: 091-0274

Applicant: Scott Seaver

Permit Issue Date: 06/19/2017

As-Built plan submitted?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
As-Built plan stamped and dated by a licensed professional?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Written summary of changes between approved plan and as-built plan?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
List of Summary of plan changes	1. Planting plan revised per approved modified planting plan approved by ACC on 01/03/2019	
Is there a special condition in the OOC that states what must be submitted for this Request for Certificate of Compliance? What is the language of that special condition?	46. When requesting a Certificate of Compliance for this Order of Conditions, the Applicant must submit a written statement from a Massachusetts professional engineer, registered land surveyor, or registered landscape architect certifying that the completed work complies with the plans referenced in this Order, or provide an as-built plan and statement describing any differences.	
Special Conditions	37. Any plantings and landscaping within the 100-foot Buffer Zone shall conform to the Landscaping Plan in Arlington, MASS, and the following: (a) No plant materials shall be used of any species which appears on the Massachusetts Prohibited Plant list at	<input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant

	<p>http://www.mass.gov/agr/farmproducts/prohibitedplantlist.htm</p> <p>(b) Fertilizers, pesticides, or herbicides shall not be used within 50 feet of the wetland, except as noted in (c) unless a specific need for treating a particular specimen or species has been demonstrated to the Commission, and permission has been granted.</p> <p>(c) Fertilizers may be used at the time of installation of any plant materials, and once more within a year after planting.</p> <p>(d) The minimum sizes for plantings shall be No. 1 pot for woody vegetation. All plantings shall comply with the American Nurseryman Standards;</p> <p>(e) Native plant installations must be maintained and replaced, if necessary, for a minimum of 3 years from the planting date(s).</p> <p>(f) A report shall be sent to the Commission annually indicating the reason for the die-off and recommending changes, if needed, to the species of vegetation planted to ensure survivability.</p>	
	<p>38. The Applicants shall provide 4 rebar markers bearing the words "habitat area," one at either end of the property line and two in between. This condition shall not expire with the issuance of a Certificate of Compliance.</p>	<input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant
	<p>39. The area on the lot within 25 feet of BVW shall be protected in perpetuity by having vegetation but not lawn in this area. This condition shall not expire with the issuance of a Certificate of Compliance.</p>	<input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant
	<p>40. The contractor shall inform the first house buyer of the conditions imposed by the Conservation Commission.</p>	<input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant
	<p>43. The bottom of the fence at the north property line shall be at least 6" off the ground. This condition shall not expire with the issuance of a Certificate of Compliance.</p>	<input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant
	<p>44. The patio shall be built and maintained according to the following specifications: a. The patio shall be constructed using pervious pavers;</p>	<input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant – specifications not given

	<p>b. The stair and landing shall be constructed within the patio area;</p> <p>c. Specifications for the pavers shall be provided to the Conservation Commission before construction.</p> <p>This condition shall not expire with the issuance of a Certificate of Compliance.</p> <p>45. Weepholes shall be included in proposed retaining walls on either side of house. This condition shall not expire with the issuance of a Certificate of Compliance.</p> <p>46. When requesting a Certificate of Compliance for this Order of Conditions, the Applicant must submit a written statement from a Massachusetts professional engineer, registered land surveyor, or registered landscape architect certifying that the completed work complies with the plans referenced in this Order, or provide an as-built plan and statement describing any differences.</p>	<p><input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant</p> <p><input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non-compliant</p>
Evaluate non-compliance(s) for Special Conditions and contact Applicant for resolution / additional information	<p><input checked="" type="checkbox"/> Applicant submitted additional information</p> <p><input type="checkbox"/> All Special Conditions compliant</p>	<p><input type="checkbox"/> Applicant cannot resolve Special Condition # contact Contact Chair/Vice Chair for discussion of next steps</p>
Agent perform site visit: Date of Site Visit =08/31/2020	<p><input checked="" type="checkbox"/> Site visit and site conditions acceptable – plants planted and in good health, resource area markers installed, gap under fence</p>	<p><input type="checkbox"/> Site visit and site conditions not acceptable</p>
Conservation Agent's recommendation	<p><input checked="" type="checkbox"/> Issue Certificate of Compliance with ongoing conditions #38, 39, 43, 44, 45</p>	<p><input type="checkbox"/> Do not issue Certificate of Compliance</p>



Town of Arlington, Massachusetts

Notice of Intent

Summary:

Notice of Intent: Wellington Park, 35 Grove Street

MassDEP File #unassigned

This project proposes additional amenities in Wellington Park, including more native plantings, an extended pathway, a bioretention basin, additional signage and seating, and an informal exploration area.

ATTACHMENTS:

Type	File Name	Description
□ Notice of Intent	Wellington_Phase3_NOI_09032020.pdf	Wellington Park NOI

Notice of Intent Application

Mill Brook Corridor & Wellington Park Revitalization Phase – 3 Project Arlington, Massachusetts

2 September, 2020

Subject Property

Wellington Park
35 Grove Street
Parcel Number 54-1-1
Arlington, Massachusetts 02476

Applicant and Owner

Emily Sullivan
Town of Arlington
730 Massachusetts Avenue
Arlington, Massachusetts 02476
(781) 316-3012

Representative

Hatch
27 Congress Street, Suite 508
Salem, MA 01970
(978) 224-3122

HATCH



September 2, 2020

Reference: H/362472/100

Arlington Conservation Commission
Attn: Emily Sullivan
730 Massachusetts Avenue
Arlington, MA 02476

Subject: Notice of Intent
Mill Brook Corridor and Wellington Park Revitalization – Phase 3

Dear Members of the Conservation Commission,

On behalf of the owners, the Town of Arlington, Hatch Associates Consultants, Inc. (Hatch) is submitting this Notice of Intent (NOI) Application pursuant to the Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40) and the Town of Arlington Wetlands Protection Bylaw for the proposed renovations at Wellington Park.

Enclosed please find:

One original and seven copies of the NOI submission

We look forward to meeting with you at the September 17, 2020 Public Hearing. If you have any questions regarding this application or require additional information, please contact me at (978) 224-3110 or at andrew.keel@hatch.com.

Respectfully,

HATCH

Andrew Keel, PLA
Project Manager, Landscape Architect

Cc: DEP Northeast Regional Office

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WPA Form 3 – NOTICE OF INTENT



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Arlington

City/Town

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

35 Grove Street

a. Street Address

Arlington

b. City/Town

02476

c. Zip Code

Latitude and Longitude:

42deg25'13.27"N

d. Latitude

71deg10'3.28"W

e. Longitude

54,55

f. Assessors Map/Plat Number

054.0-0001-0001.1,0.55B-0001-0010.0

g. Parcel /Lot Number

2. Applicant:

Emily

a. First Name

Sullivan

b. Last Name

Town of Arlington

c. Organization

730 Massachusetts Avenue

d. Street Address

Arlington

e. City/Town

MA

f. State

02476

g. Zip Code

(781) 316-3012

h. Phone Number

i. Fax Number

ESullivan@town.arlington.ma.us

j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Andrew

a. First Name

Keel

b. Last Name

Hatch Associates Consultants, Inc.

c. Company

27 Congress St. Suite 508

d. Street Address

Salem

e. City/Town

MA

f. State

01970

g. Zip Code

(978) 224-3110

h. Phone Number

i. Fax Number

andrew.keel@hatch.com

j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

exempt

a. Total Fee Paid

na

b. State Fee Paid

na

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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A. General Information (continued)

6. General Project Description:

Mill Brook Corridor & Wellington Park Revitalization - Phase 3

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- | | |
|---|---|
| 1. <input type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Commercial/Industrial | 4. <input type="checkbox"/> Dock/Pier |
| 5. <input type="checkbox"/> Utilities | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation |
| 9. <input checked="" type="checkbox"/> Other | |

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☒ Yes ☐ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53(4)(e)(5) Other: Planting of vegetation to improve habitat value; fill removal and regrading; invasive species

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middlesex County

a. County

5718

c. Book

b. Certificate # (if registered land)

57

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- ☐ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input checked="" type="checkbox"/> Bank	8 1. linear feet	8 2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	2,725 1. square feet 40 3. cubic feet of flood storage lost	2,750 2. square feet 600 4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input checked="" type="checkbox"/> Riverfront Area	Mill Brook 1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

- ☐ 25 ft. - Designated Densely Developed Areas only
- ☐ 100 ft. - New agricultural projects only
- ☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 300,000
square feet

4. Proposed alteration of the Riverfront Area:

<u>22,780</u>	<u>21,250</u>	<u>1,530</u>
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☒ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet _____ 2. cubic yards dredged _____	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet _____	2. cubic yards beach nourishment _____
e. <input type="checkbox"/> Coastal Dunes	1. square feet _____	2. cubic yards dune nourishment _____
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet _____	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet _____	
h. <input type="checkbox"/> Salt Marshes	1. square feet _____	2. sq ft restoration, rehab., creation _____
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet _____	
	2. cubic yards dredged _____	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet _____	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged _____	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet _____	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW _____

b. square feet of Salt Marsh _____

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings _____

b. number of replacement stream crossings _____



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Provided by MassDEP:

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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

a. ☐ Yes ☒ No

If yes, include proof of mailing or hand delivery of NOI to:

Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

2020

b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

1. ☐ Percentage/acreage of property to be altered:

(a) within wetland Resource Area

percentage/acreage

(b) outside Resource Area

percentage/acreage

2. ☐ Assessor's Map or right-of-way plan of site

2. ☒ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

(a) ☒ Project description (including description of impacts outside of wetland resource area & buffer zone)

(b) ☒ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/mesa/mesa_fee_schedule.htm). Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

Projects altering 10 or more acres of land, also submit:

- (d) ☐ Vegetation cover type map of site
- (e) ☐ Project plans showing Priority & Estimated Habitat boundaries
- (f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/mesa/mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing. a. NHESP Tracking # _____ b. Date submitted to NHESP _____

3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

- a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

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C. Other Applicable Standards and Requirements (cont'd)

Online Users:

Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
- a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
- a. ☐ Yes ☒ No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
- a. ☐ Yes ☒ No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
- a. ☒ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
 2. ☒ A portion of the site constitutes redevelopment
 3. ☐ Proprietary BMPs are included in the Stormwater Management System.
- b. ☐ No. Check why the project is exempt:
1. ☐ Single-family house
 2. ☐ Emergency road repair
 3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



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D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

See appendix G Plans

a. Plan Title

b. Prepared By

c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. ☐ Attach NOI Wetland Fee Transmittal Form
9. ☒ Attach Stormwater Report, if needed.

E. Fees

1. ☒ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection
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WPA Form 3 – Notice of Intent

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Provided by MassDEP:

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F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

Emily Smith

1. Signature of Applicant

9/2/2020

2. Date

3. Signature of Property Owner (if different)

Andrew Keel

4. Date

9/2/2020

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

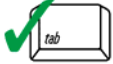
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection
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NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

a. Street Address

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

3. Property Owner (if different):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

B. Fees

Fee should be calculated using the following process & worksheet. ***Please see Instructions before filling out worksheet.***

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.



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NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee

Step 5/Total Project Fee:

Step 6/Fee Payments:

Total Project Fee:

a. Total Fee from Step 5

State share of filing Fee:

b. 1/2 Total Fee **less** \$12.50

City/Town share of filing Fee:

c. 1/2 Total Fee **plus** \$12.50

C. Submittal Requirements

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

Affidavit of Service

AFFIDAVIT OF SERVICE

I, Andrew Keel, being duly sworn, do hereby state as follows: on September 2, 2020, I mailed a "Notification to Abutters" in compliance with the second paragraph of Massachusetts General Laws, Chapter 131, s.40, the DEP Guide to Abutter Notification dated April 8, 1994, and the Arlington Wetlands Protection Bylaw, Title V, Article 8 of the Town of Arlington Bylaws in connection with the following matter:

Mill Brook Corridor & Wellington Park Revitalization – Phase 3

The form of the notification, and a list of the abutters to whom it was provided and their addresses, are attached to this Affidavit of Service.

Signed under the pains and penalties of perjury, this 2nd day of September 2020,



Andrew Keel, PLA
Project Manager, Landscape Architect
Hatch Associates Consultants, Inc.

Abutter Notification Form

Abutter Notification

Notification to Abutters Under the Massachusetts Wetlands Protection Act and Arlington Wetlands Protection Bylaw

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, and the Arlington Wetlands Protection Bylaw, you are hereby notified of the following:

The Conservation Commission will hold a public hearing in the second floor conference room of the Town Hall Annex, 730 Massachusetts Avenue, Arlington, on **17, September, 2020**, at **7:30pm** in accordance with the provisions of the Mass. Wetlands Protection Act (M.G.L. Ch. 131, s. 40, as amended) and the Town of Arlington Bylaws Article 8, Bylaw for Wetland Protection, for a Notice of Intent (or Request for Determination of Applicability) from **Emily Sullivan, for Mill Brook Corridor & Wellington Park Revitalization** at **0 Grove Street**, within **200 feet of a Riverfront OR a floodway**, on Assessor's Property Map/s # **54**, Lot/s # **54-1-1**.

A copy of the application and accompanying plans are available for inspection Mon. - Thurs. 8am-4pm and Fri. 8am-noon at the Conservation Commission office, first floor of the Town Hall Annex, 730 Massachusetts Avenue, Arlington, MA 02476. For more information call the applicant at **(781) 316-3012** or the Arlington Conservation Commission at 781-316-3012, or the DEP Northeast Regional Office at 978-694-3200.

NOTE: Notice of the Public Hearing will be published at least five (5) business days in advance in *The Arlington Advocate* and will also be posted at least 48 hours in advance in the Arlington Town Hall.

The meeting information for your hearing is:

Date: September 17, 2020

Time: 7:30pm

Certified List of Abutters



Office of the
Board of Assessors
Robbins Memorial Town Hall
Arlington, MA 02476
(781) 316-3050
Assessors@town.arlington.ma.us

Abutters List

Date: July 22, 2020

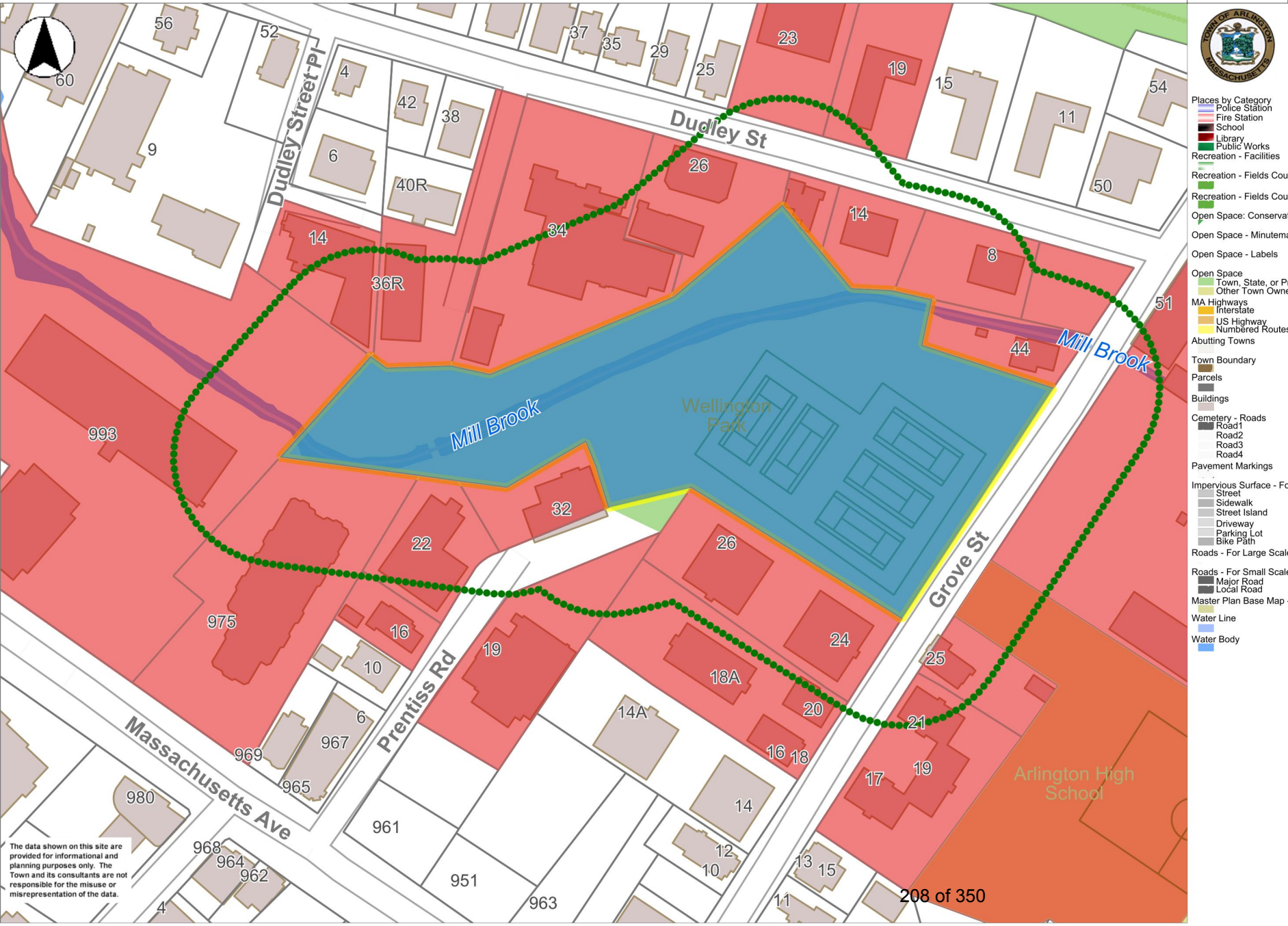
Subject Property Address: 0-LOT GROVE ST Arlington, MA
Wellington Park
Subject Property ID: 54-1-1

Search Distance: 100 Feet
Conservation

The Board of Assessors certifies the names and addresses of requested parties in interest, all abutters within 100 feet of the property lines, of subject property.

Kim C. Feeley
Robert E. Greeley
[Signature]

Board of Assessors



Abutters List

Date: July 22, 2020

Subject Property Address: 0-LOT GROVE ST Arlington, MA
Wellington Park
Subject Property ID: 54-1-1

Search Distance: 100 Feet
Conservation

Prop ID: 54-1-19.A
Prop Location: 16-20 GROVE ST Arlington, MA
Owner: LOMBARD LEON E & SHIRLEY/TRS
Co-Owner: 20 GROVE STREET REALTY TRUST
Mailing Address:
20 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-1-21.A
Prop Location: 24-26 GROVE ST Arlington, MA
Owner: LOMBARD LEON E JR/TRUSTEE
Co-Owner: TARA-LEAH REALTY TR
Mailing Address:
20 GROVE ST
ARLINGTON, MA 02474

Prop ID: 54-1-24.A
Prop Location: 44 GROVE ST Arlington, MA
Owner: PRETZER XAVID
Co-Owner:
Mailing Address:
44 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-1-25.A
Prop Location: 0-LOT DUDLEY ST Arlington, MA
Owner: PRETZER XAVID
Co-Owner:
Mailing Address:
44 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-1-26
Prop Location: 8 DUDLEY ST Arlington, MA
Owner: ARLINGTON - DUDLEY REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQUARE
SOMERVILLE, MA 02143

Prop ID: 54-1-27
Prop Location: 14 DUDLEY ST Arlington, MA
Owner: ARLINGTON - DUDLEY REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQUARE
SOMERVILLE, MA 02143

Prop ID: 54-1-28
Prop Location: 0-LOT DUDLEY ST Arlington, MA
Owner: ARLINGTON - DUDLEY REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQUARE
SOMERVILLE, MA 02143

Prop ID: 54-2-6
Prop Location: 19 DUDLEY ST Arlington, MA
Owner: NOSTALGIA PROPERTIES LLC
Co-Owner:
Mailing Address:
39 BRIGHTON AVE
BOSTON, MA 02134

Prop ID: 54-3-2.A
Prop Location: 49 GROVE ST Arlington, MA
Owner: TOWN OF ARLINGTON TOWN YARD
Co-Owner: PUBLIC WORKS
Mailing Address:
730 MASS AVE
ARLINGTON, MA 02476

Prop ID: 54-3-2.B
Prop Location: 0-LOT GROVE ST Arlington, MA
Owner: TOWN OF ARLINGTON
Co-Owner: SCHOOL DEPT
Mailing Address:
27 MAPLE STREET
ARLINGTON, MA 02476

Prop ID: 54-3-3.A
Prop Location: 25 GROVE ST Arlington, MA
Owner: SUPPANISANUWONG PICHAI
Co-Owner:
Mailing Address:
25 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-3-4.A
Prop Location: 17-21 GROVE ST Arlington, MA
Owner: ARLINGTON-GROVE REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQ
SOMERVILLE, MA 02143

Prop ID: 54.A-1-3.1
Prop Location: 19 PRENTISS RD UNIT 1 Arlington, MA
Owner: ALOSIA REALTY TRUST 1349
Co-Owner: LEONE DAVID A ETAL TRS
Mailing Address:
19 PRENTISS RD UNIT 1
ARLINGTON, MA 02476

Prop ID: 54.A-1-3.2
Prop Location: 19 PRENTISS RD UNIT 2 Arlington, MA
Owner: SUNSHINE NURSERY SCHOOL INC.
Co-Owner:
Mailing Address:
19 PRENTISS RD UNIT 2
ARLINGTON, MA 02476

Prop ID: 55-1-14
Prop Location: 23 DUDLEY ST Arlington, MA
Owner: MALONEY SEAN P/TRUSTEE
Co-Owner: OXBOW REALTY TRUST
Mailing Address:
P. O. BOX 515
LEXINGTON, MA 02420

Prop ID: 55-2-1.A
Prop Location: 32 PRENTISS RD Arlington, MA
Owner: J & G PRENTISS LLC
Co-Owner:
Mailing Address:
32 PRENTISS RD
ARLINGTON, MA 02474

Prop ID: 55-2-3
Prop Location: 22 PRENTISS RD Arlington, MA
Owner: CARNEY JOHN A
Co-Owner:
Mailing Address:
98 RICHFIELD RD
ARLINGTON, MA 02474

Prop ID: 55-2-34
Prop Location: 14 DUDLEY CT Arlington, MA
Owner: 14 DUDLEY COURT LLC
Co-Owner:
Mailing Address:
6 EAST RD
SOUTH CHATHAM, MA 02659

Prop ID: 55-2-39.A
Prop Location: 36-R DUDLEY ST Arlington, MA
Owner: GREENE BRUCE
Co-Owner: JOHNSON LOUISE M
Mailing Address:
36R DUDLEY STREET
ARLINGTON, MA 02476

Prop ID: 55-2-39.B
Prop Location: 34 DUDLEY ST Arlington, MA
Owner: 34 DUDLEY STREET LLC
Co-Owner:
Mailing Address:
34 DUDLEY STREET
ARLINGTON, MA 02476

Prop ID: 55-2-41
Prop Location: 26 DUDLEY ST Arlington, MA
Owner: SANTINI MARK & GARY--TRS
Co-Owner: SANTINI REALTY TRUST
Mailing Address:
P.O. BOX 93
ARLINGTON, MA 02476

Prop ID: 55-2-5
Prop Location: 16 PRENTISS RD Arlington, MA
Owner: DELONG SARA & STEFFAN N
Co-Owner:
Mailing Address:
16 PRENTISS RD
ARLINGTON, MA 02476

Prop ID: 55.B-1-101
Prop Location: 993 MASS AVE UNIT 101 Arlington, MA
Owner: BUCHANAN ELAINE M
Co-Owner:
Mailing Address:
76 BEECH ST UNIT 2
BELMONT, MA 02478

Prop ID: 55.B-1-102
Prop Location: 993 MASS AVE UNIT 102 Arlington, MA
Owner: LIN JANE E
Co-Owner: LEE KEN A
Mailing Address:
993 MASS AVENUE #102
ARLINGTON, MA 02476

Prop ID: 55.B-1-103
Prop Location: 993 MASS AVE UNIT 103 Arlington, MA
Owner: MC KINNON GARRETT
Co-Owner:
Mailing Address:
239 PLEASANT STREET
ARLINGTON, MA 02476

Prop ID: 55.B-1-104
Prop Location: 993 MASS AVE UNIT 104 Arlington, MA
Owner: FABIANO DIANE M
Co-Owner:
Mailing Address:
993 MASS AVE #104
ARLINGTON, MA 02474

Prop ID: 55.B-1-105
Prop Location: 993 MASS AVE UNIT 105 Arlington, MA
Owner: URBAN JULIE A
Co-Owner:
Mailing Address:
993 MASS AVE #105
ARLINGTON, MA 02476

Prop ID: 55.B-1-106
Prop Location: 993 MASS AVE UNIT 106 Arlington, MA
Owner: BOWES ROBERT E
Co-Owner:
Mailing Address:
1010 MASS AVE
ARLINGTON, MA 02476

Prop ID: 55.B-1-107
Prop Location: 993 MASS AVE UNIT 107 Arlington, MA
Owner: SHANNON VIRGINIA A LIFE ESTATE
Co-Owner:
Mailing Address:
993 MASS AVENUE #107
ARLINGTON, MA 02476

Prop ID: 55.B-1-108
Prop Location: 993 MASS AVE UNIT 108 Arlington, MA
Owner: HART ASHLEY
Co-Owner:
Mailing Address:
993 MASSACHUSETTS AVE
UNIT 108
ARLINGTON, MA 02476

Prop ID: 55.B-1-109
Prop Location: 993 MASS AVE UNIT 109 Arlington, MA
Owner: LENNEY CHRISTOPHER
Co-Owner:
Mailing Address:
993 MASS AVENUE #109
ARLINGTON, MA 02476

Prop ID: 55.B-1-110
Prop Location: 993 MASS AVE UNIT 110 Arlington, MA
Owner: REED MARY ELLEN
Co-Owner:
Mailing Address:
993 MASS AVE #110
ARLINGTON, MA 02476

Prop ID: 55.B-1-111
Prop Location: 993 MASS AVE UNIT 111 Arlington, MA
Owner: OSHEA EILEEN
Co-Owner:
Mailing Address:
993 MASS AVE #111
ARLINGTON, MA 02476

Prop ID: 55.B-1-112
Prop Location: 993 MASS AVE UNIT 112 Arlington, MA
Owner: NARDONE WILLIAM & JEAN M
Co-Owner:
Mailing Address:
993 MASS AVENUE #112
ARLINGTON, MA 02476

Prop ID: 55.B-1-113
Prop Location: 993 MASS AVE UNIT 113 Arlington, MA
Owner: SHEEHAN MEAGHAN
Co-Owner:
Mailing Address:
581 OLD STRAWBERRY HILL RD
CENTERVILLE MA, MA 02632

Prop ID: 55.B-1-114
Prop Location: 993 MASS AVE UNIT 114 Arlington, MA
Owner: IKEMOTO BRIAN Y
Co-Owner:
Mailing Address:
993 MASS AVENUE #114
ARLINGTON, MA 02476

Prop ID: 55.B-1-115
Prop Location: 993 MASS AVE UNIT 115 Arlington, MA
Owner: CLERMONT JACQUELYN M
Co-Owner:
Mailing Address:
993 MASSACHUSETTS AVE #115
ARLINGTON, MA 02476

Prop ID: 55.B-1-117
Prop Location: 993 MASS AVE UNIT 117 Arlington, MA
Owner: CHYI SHYUE-LING
Co-Owner:
Mailing Address:
993 MASS AVENUE #117
ARLINGTON, MA 02476

Prop ID: 55.B-1-118
Prop Location: 993 MASS AVE UNIT 118 Arlington, MA
Owner: CHAN YUKTONG & MARY
Co-Owner:
Mailing Address:
993 MASS AVENUE UNIT 118
ARLINGTON, MA 02476

Prop ID: 55.B-1-119
Prop Location: 993 MASS AVE UNIT 119 Arlington, MA
Owner: KUNSMAN JANET M
Co-Owner:
Mailing Address:
134 WOODSIDE LANE
ARLINGTON, MA 02474

Prop ID: 55.B-1-120
Prop Location: 993 MASS AVE UNIT 120 Arlington, MA
Owner: BAGHDADI REZA
Co-Owner: SOLOUKI SAEIDEH
Mailing Address:
993 MASS AVE UNIT 120
ARLINGTON, MA 02476

Prop ID: 55.B-1-121
Prop Location: 993 MASS AVE UNIT 121 Arlington, MA
Owner: PANTAZOPOULOS NICHOLAS
Co-Owner:
Mailing Address:
993 MASS AVE #121
ARLINGTON, MA 02476

Prop ID: 55.B-1-122
Prop Location: 993 MASS AVE UNIT 122 Arlington, MA
Owner: LIVINGSTONE DAVID J
Co-Owner:
Mailing Address:
993 MASS AVENUE #122
ARLINGTON, MA 02476

Prop ID: 55.B-1-123
Prop Location: 993 MASS AVE UNIT 123 Arlington, MA
Owner: ARLINGTON HOUSING AUTHORITY
Co-Owner:
Mailing Address:
4 WINSLOW ST
ARLINGTON, MA 02476

Prop ID: 55.B-1-124
Prop Location: 993 MASS AVE UNIT 124 Arlington, MA
Owner: WILEY JUSTIN
Co-Owner:
Mailing Address:
993 MASS AVE #124
ARLINGTON, MA 02476

Prop ID: 55.B-1-125
Prop Location: 993 MASS AVE UNIT 125 Arlington, MA
Owner: CLABAUGH JERRY A
Co-Owner:
Mailing Address:
993 MASS AVENUE #125
ARLINGTON, MA 02476

Prop ID: 55.B-1-126
Prop Location: 993 MASS AVE UNIT 126 Arlington, MA
Owner: SOUZA PAUL A/TRUSTEE
Co-Owner: BLAIR MICHAEL WARD
Mailing Address:
204 OSCEOLA RD
BELLEAIR, FL 33770

Prop ID: 55.B-1-127
Prop Location: 993 MASS AVE UNIT 127 Arlington, MA
Owner: PASQUALE FRANCO
Co-Owner:
Mailing Address:
993 MASS AVE #127
ARLINGTON, MA 02474

Prop ID: 55.B-1-128
Prop Location: 993 MASS AVE UNIT 128 Arlington, MA
Owner: LAM VINCENT
Co-Owner: ZHAO YAN
Mailing Address:
993 MASS AVE UNIT 128
ARLINGTON, MA 02476

Prop ID: 55.B-1-201
Prop Location: 993 MASS AVE UNIT 201 Arlington, MA
Owner: BAGHDADI REZA
Co-Owner: SOLOUKI SAEIDEH
Mailing Address:
993 MASS AVE #201
ARLINGTON, MA 02476

Prop ID: 55.B-1-202
Prop Location: 993 MASS AVE UNIT 202 Arlington, MA
Owner: PARATORE JOSEPHINE
Co-Owner:
Mailing Address:
28 CROSS STREET
BELMONT, MA 02478

Prop ID: 55.B-1-203
Prop Location: 993 MASS AVE UNIT 203 Arlington, MA
Owner: DANALEVICH JENNIFER
Co-Owner:
Mailing Address:
1 CONN ST #3
WOBURN, MA 01801

Prop ID: 55.B-1-204
Prop Location: 993 MASS AVE UNIT 204 Arlington, MA
Owner: ILIC KATARINA
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 204
ARLINGTON, MA 02476

Prop ID: 55.B-1-205
Prop Location: 993 MASS AVE UNIT 205 Arlington, MA
Owner: PHIPPS HEATHER M
Co-Owner:
Mailing Address:
993 MASS AVE #205
ARLINGTON, MA 02474

Prop ID: 55.B-1-206
Prop Location: 993 MASS AVE UNIT 206 Arlington, MA
Owner: KAHN ELIZABETH/ TRUSTEE
Co-Owner: BURKE REALTY TRUST
Mailing Address:
2424 EUCLID ST
SANTA MONICA, CA 90405

Prop ID: 55.B-1-207
Prop Location: 993 MASS AVE UNIT 207 Arlington, MA
Owner: ILIC KATARINA
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 204
ARLINGTON, MA 02476

Prop ID: 55.B-1-208
Prop Location: 993 MASS AVE UNIT 208 Arlington, MA
Owner: FLANIGAN ELAINE & JAMES
Co-Owner: TRS/JAMES FLANNIGAN TRUST
Mailing Address:
190 BARLEY NECK ROAD
ORLEANS, MA 02653

Prop ID: 55.B-1-209
Prop Location: 993 MASS AVE UNIT 209 Arlington, MA
Owner: HORAN MATTHEW R
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 209
ARLINGTON, MA 02474

Prop ID: 55.B-1-210
Prop Location: 993 MASS AVE UNIT 210 Arlington, MA
Owner: DALLAS ANN F
Co-Owner:
Mailing Address:
993 MASS AVE #210
ARLINGTON, MA 02476

Prop ID: 55.B-1-211
Prop Location: 993 MASS AVE UNIT 211 Arlington, MA
Owner: DILEO RUTSTEIN HEIDI
Co-Owner: DILEO DENNIS
Mailing Address:
14 LOCKE STREET
WINCHESTER, MA 01890

Prop ID: 55.B-1-212
Prop Location: 993 MASS AVE UNIT 212 Arlington, MA
Owner: O'BRIEN MICHAEL
Co-Owner: SHEN QIANRU
Mailing Address:
993 MASS AVE UNIT 212
ARLINGTON, MA 02476

Prop ID: 55.B-1-213
Prop Location: 993 MASS AVE UNIT 213 Arlington, MA
Owner: CHEN QIAN
Co-Owner:
Mailing Address:
993 MASS AVENUE #213
ARLINGTON, MA 02476

Prop ID: 55.B-1-214
Prop Location: 993 MASS AVE UNIT 214 Arlington, MA
Owner: YOUNG WILLIAM F/TRUSTEE
Co-Owner: WILLIAM YOUNG JR TRUST
Mailing Address:
PO BOX 327 DEPT 16
HOUSTON, TX 77001

Prop ID: 55.B-1-215
Prop Location: 993 MASS AVE UNIT 215 Arlington, MA
Owner: KARAASLANIAN JACQUELINE
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 215
ARLINGTON, MA 02476

Prop ID: 55.B-1-216
Prop Location: 993 MASS AVE UNIT 216 Arlington, MA
Owner: PAUL DAVID S
Co-Owner:
Mailing Address:
993 MASS AVE #216
ARLINGTON, MA 02476

Prop ID: 55.B-1-217
Prop Location: 993 MASS AVE UNIT 217 Arlington, MA
Owner: HEALEY MARGARET L
Co-Owner:
Mailing Address:
993 MASS AVE
ARLINGTON, MA 02476

Prop ID: 55.B-1-218
Prop Location: 993 MASS AVE UNIT 218 Arlington, MA
Owner: PINE DANIEL R
Co-Owner:
Mailing Address:
51 STOWECROFT ROAD
ARLINGTON, MA 02476

Prop ID: 55.B-1-219
Prop Location: 993 MASS AVE UNIT 219 Arlington, MA
Owner: RASOGIANNI PANAGIOTA
Co-Owner:
Mailing Address:
993 MASS AVENUE #219
ARLINGTON, MA 02476

Prop ID: 55.B-1-220
Prop Location: 993 MASS AVE UNIT 220 Arlington, MA
Owner: BOWLER ELIZABETH M
Co-Owner:
Mailing Address:
993 MASS AVENUE #220
ARLINGTON, MA 02476

Prop ID: 55.B-1-221
Prop Location: 993 MASS AVE UNIT 221 Arlington, MA
Owner: GUTHRIE LINDA
Co-Owner:
Mailing Address:
993 MASS AVE #221
ARLINGTON, MA 02476

Prop ID: 55.B-1-222
Prop Location: 993 MASS AVE UNIT 222 Arlington, MA
Owner: FREDERICK THOMAS & MARIA
Co-Owner:
Mailing Address:
167 SEVEN STAR ROAD
GROVELAND, MA 01834

Prop ID: 55.B-1-223
Prop Location: 993 MASS AVE UNIT 223 Arlington, MA
Owner: SIRACUSA JAMES M JR
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 223
ARLINGTON, MA 02476

Prop ID: 55.B-1-224
Prop Location: 993 MASS AVE UNIT 224 Arlington, MA
Owner: GOULD MARGARET M--ETAL
Co-Owner: GOULD PATRICK A
Mailing Address:
91-1511 KAIKOHOLA ST
EWA BEACH, HI 96706

Prop ID: 55.B-1-225
Prop Location: 993 MASS AVE UNIT 225 Arlington, MA
Owner: BURKE SARA
Co-Owner:
Mailing Address:
993 MASS AVE #225
ARLINGTON, MA 02476

Prop ID: 55.B-1-226
Prop Location: 993 MASS AVE UNIT 226 Arlington, MA
Owner: ORIA MYRA
Co-Owner:
Mailing Address:
993 MASS AVE #226
ARLINGTON, MA 02476

Prop ID: 55.B-1-227
Prop Location: 993 MASS AVE UNIT 227 Arlington, MA
Owner: ZHOU CHANGHAO
Co-Owner:
Mailing Address:
993 MASSACHUSETTS AVE #227
ARLINGTON, MA 02476

Prop ID: 55.B-1-228
Prop Location: 993 MASS AVE UNIT 228 Arlington, MA
Owner: MARTIN ROBERT J & KATHRYN S
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 228
ARLINGTON, MA 02476

Prop ID: 55.B-1-301
Prop Location: 993 MASS AVE UNIT 301 Arlington, MA
Owner: MATTESON MARY BLISS
Co-Owner:
Mailing Address:
993 MASS AVE #301
ARLINGTON, MA 02476

Prop ID: 55.B-1-302
Prop Location: 993 MASS AVE UNIT 302 Arlington, MA
Owner: ZHU HUOHUI
Co-Owner: JI YANMIN
Mailing Address:
20 HAWTHORNE AVENUE
ARLINGTON, MA 02476

Prop ID: 55.B-1-303
Prop Location: 993 MASS AVE UNIT 303 Arlington, MA
Owner: NAJAFABADI MALIHE AHMADI
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 303
ARLINGTON, MA 02476

Prop ID: 55.B-1-304
Prop Location: 993 MASS AVE UNIT 304 Arlington, MA
Owner: MICKEVICH ANNA
Co-Owner:
Mailing Address:
993 MASS AVE #304
ARLINGTON, MA 02476

Prop ID: 55.B-1-305
Prop Location: 993 MASS AVE UNIT 305 Arlington, MA
Owner: BHATTACHAN JONU &
Co-Owner: TULACHAN ANUP
Mailing Address:
993 MASS AVE UNIT 305
ARLINGTON, MA 02474

Prop ID: 55.B-1-306
Prop Location: 993 MASS AVE UNIT 306 Arlington, MA
Owner: HARVEY THOMAS M
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 306
ARLINGTON, MA 02476

Prop ID: 55.B-1-307
Prop Location: 993 MASS AVE UNIT 307 Arlington, MA
Owner: AGHDAMLIAN LUCIE A
Co-Owner: AGHDAMLIAN ANTRANIK S
Mailing Address:
993 MASS AVENUE #307
ARLINGTON, MA 02476

Prop ID: 55.B-1-308
Prop Location: 993 MASS AVE UNIT 308 Arlington, MA
Owner: CHEAH JENYENG & SUSAN &
Co-Owner: LIANG WENKWAY
Mailing Address:
993 MASS AVENUE #308
ARLINGTON, MA 02476

Prop ID: 55.B-1-309
Prop Location: 993 MASS AVE UNIT 309 Arlington, MA
Owner: WECHSLER MARJORIE
Co-Owner:
Mailing Address:
993 MASS AVE #309
ARLINGTON, MA 02476

Prop ID: 55.B-1-310
Prop Location: 993 MASS AVE UNIT 310 Arlington, MA
Owner: SHEN GRACE
Co-Owner:
Mailing Address:
993 MASS AVE #320
ARLINGTON, MA 02476

Prop ID: 55.B-1-311
Prop Location: 993 MASS AVE UNIT 311 Arlington, MA
Owner: HAMWEY BARBARA
Co-Owner:
Mailing Address:
993 MASS AVENUE #311
ARLINGTON, MA 02476

Prop ID: 55.B-1-312
Prop Location: 993 MASS AVE UNIT 312 Arlington, MA
Owner: CHAVES ANTONIO F-MARIA M
Co-Owner:
Mailing Address:
434 APPLETON STREET
ARLINGTON, MA 02476

Prop ID: 55.B-1-313
Prop Location: 993 MASS AVE UNIT 313 Arlington, MA
Owner: GARCIA FRANCISCO--ETAL
Co-Owner: GARCIA CORALIA M
Mailing Address:
5 COPPERSMITH WAY
LEXINGTON, MA 02476

Prop ID: 55.B-1-314
Prop Location: 993 MASS AVE UNIT 314 Arlington, MA
Owner: GUAN CHENGHE
Co-Owner: ZHANG JING
Mailing Address:
993 MASS AVE #314
ARLINGTON, MA 02476

Prop ID: 55.B-2-101
Prop Location: 995 MASS AVE UNIT 101 Arlington, MA
Owner: BARNES ANGELA/ETAL
Co-Owner: FITTANTE MICHAEL
Mailing Address:
2 BAKER ST
HONOLULU, HI 96818

Prop ID: 55.B-2-102
Prop Location: 995 MASS AVE UNIT 102 Arlington, MA
Owner: DEFEO MATTHEW
Co-Owner:
Mailing Address:
995 MASS AVE
UNIT # 102
ARLINGTON, MA 02476

Prop ID: 55.B-2-103
Prop Location: 995 MASS AVE UNIT 103 Arlington, MA
Owner: TEEHAN EDWARD R JR &
Co-Owner: TEEHAN MARGARET M
Mailing Address:
995 MASS AVENUE #103
ARLINGTON, MA 02476

Prop ID: 55.B-2-104
Prop Location: 995 MASS AVE UNIT 104 Arlington, MA
Owner: CORRICELLI DAVID
Co-Owner:
Mailing Address:
995 MASS AVENUE #104
ARLINGTON, MA 02476

Prop ID: 55.B-2-105
Prop Location: 995 MASS AVE UNIT 105 Arlington, MA
Owner: PASQUALE FRANCO
Co-Owner:
Mailing Address:
995 MASS AVE UNIT 105
ARLINGTON, MA 02476

Prop ID: 55.B-2-106
Prop Location: 995 MASS AVE UNIT 106 Arlington, MA
Owner: LERNER DEVON A
Co-Owner:
Mailing Address:
48 FLORENCE AVENUE
UNIT 2
ARLINGTON, MA 02476

Prop ID: 55.B-2-201
Prop Location: 995 MASS AVE UNIT 201 Arlington, MA
Owner: ZAVARO GEORGE
Co-Owner: ZAVARO NAHREIN
Mailing Address:
60 BRIGHTON ST
BELMONT, MA 02478

Prop ID: 55.B-2-202
Prop Location: 995 MASS AVE UNIT 202 Arlington, MA
Owner: GARRITY ANNE M--TRUSTEE
Co-Owner: D & G REALTY TRUST
Mailing Address:
995 MASS AVENUE #202
ARLINGTON, MA 02476

Prop ID: 55.B-2-203
Prop Location: 995 MASS AVE UNIT 203 Arlington, MA
Owner: CHIVUKULA SRINIVAS & SUSMITHA
Co-Owner:
Mailing Address:
8 HERON CIR UNIT 8
WALPOLE, MA 02081

Prop ID: 55.B-2-204
Prop Location: 995 MASS AVE UNIT 204 Arlington, MA
Owner: MACDONALD SHARON
Co-Owner:
Mailing Address:
995 MASS AVENUE #204
ARLINGTON, MA 02476

Prop ID: 55.B-2-205
Prop Location: 995 MASS AVE UNIT 205 Arlington, MA
Owner: CICCOLO MICHAEL
Co-Owner: GALLAGHER JASON E
Mailing Address:
54 SAINT MARKS RD
DORCHESTER, MA 02124

Prop ID: 55.B-2-206
Prop Location: 995 MASS AVE UNIT 206 Arlington, MA
Owner: LAN TAO/CHEN KEXI
Co-Owner:
Mailing Address:
8 ALBAMONT ROAD
WINCHESTER, MA 01890

Prop ID: 55.B-2-301
Prop Location: 995 MASS AVE UNIT 301 Arlington, MA
Owner: SU CLEMENT C
Co-Owner: WONG WENDY R
Mailing Address:
995 MASS AVE #301
ARLINGTON, MA 02476

Prop ID: 55.B-2-302
Prop Location: 995 MASS AVE UNIT 302 Arlington, MA
Owner: MCGOLDRICK ROBERTA J
Co-Owner:
Mailing Address:
995 MASS AVE #302
ARLINGTON, MA 02476

Prop ID: 55.B-2-303
Prop Location: 995 MASS AVE UNIT 303 Arlington, MA
Owner: TASHJIAN RONALD S/TRUSTEE
Co-Owner: TASHJIAN NOMINEE TRUST
Mailing Address:
37 BOULDER RIDGE
PLYMOUTH, MA 02360

Prop ID: 55.B-2-304
Prop Location: 995 MASS AVE UNIT 304 Arlington, MA
Owner: CLEVELAND THOMAS /TRUSTEE
Co-Owner: SANDRA CLEVELAND TRUST
Mailing Address:
EDINBURG CENTER/SANDRA CLEVELAND
205 BURLINGTON RD
BEDFORD, MA 01730

Prop ID: 55.B-2-305
Prop Location: 995 MASS AVE UNIT 305 Arlington, MA
Owner: BIRD CHRISTINE W
Co-Owner:
Mailing Address:
995 MASS AVE #305
ARLINGTON, MA 02476

Prop ID: 55.B-2-306
Prop Location: 995 MASS AVE UNIT 306 Arlington, MA
Owner: LEUNG YUK KWAI/ TRUSTEE
Co-Owner: YUK KWAI LEUNG TRUST UDT
Mailing Address:
801 FRANKLIN ST #715
OAKLAND, CA 94607

Prop ID: 55.B-2-401
Prop Location: 995 MASS AVE UNIT 401 Arlington, MA
Owner: BLOOMQUIST ALAN
Co-Owner:
Mailing Address:
88 APPLETON STREET
QUINCY, MA 02171

Prop ID: 55.B-2-402
Prop Location: 995 MASS AVE UNIT 402 Arlington, MA
Owner: KREIFELDT ALEXANDER G
Co-Owner:
Mailing Address:
995 MASS AVE #402
ARLINGTON, MA 02476

Prop ID: 55.B-2-403
Prop Location: 995 MASS AVE UNIT 403 Arlington, MA
Owner: BARRETT JOHN A
Co-Owner:
Mailing Address:
995 MASS AVENUE #403
ARLINGTON, MA 02476

Prop ID: 55.B-2-404
Prop Location: 995 MASS AVE UNIT 404 Arlington, MA
Owner: SHINE GAETANA/MICHAEL
Co-Owner:
Mailing Address:
995 MASS AVE #404
ARLINGTON, MA 02476

Prop ID: 55.B-2-405
Prop Location: 995 MASS AVE UNIT 405 Arlington, MA
Owner: QUI GEPING
Co-Owner:
Mailing Address:
6 NASSAU DR
WINCHESTER, MA 01890

Prop ID: 55.B-2-406
Prop Location: 995 MASS AVE UNIT 406 Arlington, MA
Owner: BOYCE SUZANNE E
Co-Owner:
Mailing Address:
2700 ASHLAND AVE UNIT 21
CINCINNATI, OH 45206

Prop ID: 55.B-2-501
Prop Location: 995 MASS AVE UNIT 501 Arlington, MA
Owner: GRUBEL JOANNA
Co-Owner:
Mailing Address:
995 MASS AVE UNIT 501
ARLINGTON, MA 02474

Prop ID: 55.B-2-502
Prop Location: 995 MASS AVE UNIT 502 Arlington, MA
Owner: WEISS JOHN E & EMILY S
Co-Owner:
Mailing Address:
995 MASS AVE UNIT 502
ARLINGTON, MA 02476

Prop ID: 55.B-2-503
Prop Location: 995 MASS AVE UNIT 503 Arlington, MA
Owner: ROPI ELAINE
Co-Owner:
Mailing Address:
995 MASS AVENUE #503
ARLINGTON, MA 02476

Prop ID: 55.B-2-504
Prop Location: 995 MASS AVE UNIT 504 Arlington, MA
Owner: CARLINO JANET
Co-Owner:
Mailing Address:
995 MASS AVENUE #504
ARLINGTON, MA 02476

Prop ID: 55.B-2-505
Prop Location: 995 MASS AVE UNIT 505 Arlington, MA
Owner: LIANG RUITING &
Co-Owner: QIAO JING
Mailing Address:
995 MASS AVE #505
ARLINGTON, MA 02476

Prop ID: 55.B-2-506
Prop Location: 995 MASS AVE UNIT 506 Arlington, MA
Owner: MASTROCOLA DAVID/TRUSTEE
Co-Owner: MARY KATHRYN MASTROCOLA 2016
Mailing Address:
995 MASS AVE UNIT #506
ARLINGTON, MA 02476

Prop ID: 55.C-1-101
Prop Location: 975 MASS AVE UNIT 101 Arlington, MA
Owner: DELANO ROBERT J/TRUSTEE
Co-Owner: ROBERT J DELANO 2012 REVOCABLE
Mailing Address:
975 MASS AVENUE #101
ARLINGTON, MA 02476

Prop ID: 55.C-1-102
Prop Location: 975 MASS AVE UNIT 102 Arlington, MA
Owner: LANDSKOV ERIK L & GEOFFREY
Co-Owner: LANDSKOV DAVID L
Mailing Address:
32 OLDHAM RD
ARLINGTON, MA 02474

Prop ID: 55.C-1-103
Prop Location: 975 MASS AVE UNIT 103 Arlington, MA
Owner: SRETER JULIA I & ESTHER E
Co-Owner: SRETER ALBERT J TRUSTEES
Mailing Address:
33 BEDFORD ST SUITE 4
LEXINGTON, MA 02420

Prop ID: 55.C-1-104
Prop Location: 975 MASS AVE UNIT 104 Arlington, MA
Owner: CHENG TING-WEN
Co-Owner:
Mailing Address:
975 MASS AVE APT 104
ARLINGTON, MA 02476

Prop ID: 55.C-1-105
Prop Location: 975 MASS AVE UNIT 105 Arlington, MA
Owner: KAWATE TOMOHIKO
Co-Owner:
Mailing Address:
975 MASS AVENUE #105
ARLINGTON, MA 02476

Prop ID: 55.C-1-106
Prop Location: 975 MASS AVE UNIT 106 Arlington, MA
Owner: TORPEY MARY L
Co-Owner:
Mailing Address:
975 MASS AVENUE #106
ARLINGTON, MA 02476

Prop ID: 55.C-1-107
Prop Location: 975 MASS AVE UNIT 107 Arlington, MA
Owner: STERN SALLY R
Co-Owner:
Mailing Address:
975 MASS AVENUE #107
ARLINGTON, MA 02476

Prop ID: 55.C-1-108
Prop Location: 975 MASS AVE UNIT 108 Arlington, MA
Owner: LIPTON SHARON R & AMITAI
Co-Owner:
Mailing Address:
975 MASS AVENUE #108
ARLINGTON, MA 02476

Prop ID: 55.C-1-109
Prop Location: 975 MASS AVE UNIT 109 Arlington, MA
Owner: GARSIDE PAUL/TRUSTEE
Co-Owner: L & S REALTY TRUST
Mailing Address:
2 VINE BROOK WAY
UNIT 109
WOBBURN, MA 01801

Prop ID: 55.C-1-201
Prop Location: 975 MASS AVE UNIT 201 Arlington, MA
Owner: JULIER WILLIAM/WALBURGA MABEY
Co-Owner:
Mailing Address:
975 MASSACHUSETTS AVE #201
ARLINGTON, MA 02476

Prop ID: 55.C-1-202
Prop Location: 975 MASS AVE UNIT 202 Arlington, MA
Owner: HODGDON LAWRENCE A JR/TRUSTEE
Co-Owner: HODGDON FAMILY TRUST
Mailing Address:
975 MASS AVENUE #202
ARLINGTON, MA 02476

Prop ID: 55.C-1-203
Prop Location: 975 MASS AVE UNIT 203 Arlington, MA
Owner: ODOHOE THOMAS A/CATHERINE
Co-Owner:
Mailing Address:
975 MASS AVE #203
ARLINGTON, MA 02474

Prop ID: 55.C-1-204
Prop Location: 975 MASS AVE UNIT 204 Arlington, MA
Owner: COOK CHARLES/TRUSTEE
Co-Owner: CHARLES C COOK TRUST
Mailing Address:
975 MASS AVENUE #204
ARLINGTON, MA 02476

Prop ID: 55.C-1-205
Prop Location: 975 MASS AVE UNIT 205 Arlington, MA
Owner: DAVIDOVITZ MICHAEL/MARA
Co-Owner:
Mailing Address:
975 MASS AVENUE #205
ARLINGTON, MA 02476

Prop ID: 55.C-1-206
Prop Location: 975 MASS AVE UNIT 206 Arlington, MA
Owner: SPRINGS CAROL C
Co-Owner:
Mailing Address:
975 MASS AVENUE #206
ARLINGTON, MA 02476

Prop ID: 55.C-1-207
Prop Location: 975 MASS AVE UNIT 207 Arlington, MA
Owner: DAVIDSON PATRICIA S
Co-Owner: LIFE ESTATE
Mailing Address:
975 MASS AVE UNIT 207
ARLINGTON, MA 02476

Prop ID: 55.C-1-208
Prop Location: 975 MASS AVE UNIT 208 Arlington, MA
Owner: ZMIJEWSKI DAVID T
Co-Owner:
Mailing Address:
975 MASS AVENUE #208
ARLINGTON, MA 02476

Prop ID: 55.C-1-209
Prop Location: 975 MASS AVE UNIT 209 Arlington, MA
Owner: WELCH CHERYL A/TRUSTEE
Co-Owner: CHERYL WELCH REVOCABLE LIVING
Mailing Address:
975 MASS AVE #209
ARLINGTON, MA 02476

Prop ID: 55.C-1-301
Prop Location: 975 MASS AVE UNIT 301 Arlington, MA
Owner: WANG LISI
Co-Owner:
Mailing Address:
85 FULLER TERR
WEST NEWTON, MA 02465

Prop ID: 55.C-1-302
Prop Location: 975 MASS AVE UNIT 302 Arlington, MA
Owner: MACMILLAN LYNMARIE
Co-Owner:
Mailing Address:
975 MASS AVE #302
ARLINGTON, MA 02476

Prop ID: 55.C-1-303
Prop Location: 975 MASS AVE UNIT 303 Arlington, MA
Owner: DISESSA LORRAINE
Co-Owner:
Mailing Address:
975 MASS AVE #303
ARLINGTON, MA 02476

Prop ID: 55.C-1-304
Prop Location: 975 MASS AVE UNIT 304 Arlington, MA
Owner: MANGANARO DIANE MARIE
Co-Owner:
Mailing Address:
8 BRATTLE LANE
ARLINGTON, MA 02476

Prop ID: 55.C-1-305
Prop Location: 975 MASS AVE UNIT 305 Arlington, MA
Owner: GOULD MURIEL B
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 305
ARLINGTON, MA 02476

Prop ID: 55.C-1-306
Prop Location: 975 MASS AVE UNIT 306 Arlington, MA
Owner: KUIN JAMES
Co-Owner:
Mailing Address:
60 SPRING GROVE RD
ANDOVER, MA 01810

Prop ID: 55.C-1-307
Prop Location: 975 MASS AVE UNIT 307 Arlington, MA
Owner: CHAUDHURI MEERA/ TRUSTEE
Co-Owner: 975 MASS AVE UNIT 307 RLTY TR
Mailing Address:
2279 SEMINOLE RD #1
ATLANTIC BEACH, FL 32233

Prop ID: 55.C-1-308
Prop Location: 975 MASS AVE UNIT 308 Arlington, MA
Owner: MATSUI AKIRA
Co-Owner: MATSUI NAOMI
Mailing Address:
975 MASSACHUSETTS AVE
APT 308
ARLINGTON, MA 02476-4545

Prop ID: 55.C-1-309
Prop Location: 975 MASS AVE UNIT 309 Arlington, MA
Owner: FONTAINE KENNETH
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 309
ARLINGTON, MA 02476

Prop ID: 55.C-1-401
Prop Location: 975 MASS AVE UNIT 401 Arlington, MA
Owner: GOLDSMITH KEVIN J/TR &
Co-Owner: GOLDSMITH DEBORAH E/TRUSTEE OF
Mailing Address:
975 MASS AVE #401
ARLINGTON, MA 02476

Prop ID: 55.C-1-402
Prop Location: 975 MASS AVE UNIT 402 Arlington, MA
Owner: BASU BIJAY/SANKARI
Co-Owner:
Mailing Address:
975 MASS AVENUE #402
ARLINGTON, MA 02476

Prop ID: 55.C-1-403
Prop Location: 975 MASS AVE UNIT 403 Arlington, MA
Owner: COHN STEPHEN N TRUSTEE
Co-Owner: FIRST RAYMOND FAMILY TRUST
Mailing Address:
23 CAMBRIDGE ST
WINCHESTER, MA 01890

Prop ID: 55.C-1-404
Prop Location: 975 MASS AVE UNIT 404 Arlington, MA
Owner: SCICCHITANO JUDITH M
Co-Owner:
Mailing Address:
975 MASS AVENUE #404
ARLINGTON, MA 02476

Prop ID: 55.C-1-405
Prop Location: 975 MASS AVE UNIT 405 Arlington, MA
Owner: LEE BARBARA Y T /TRUSTEE
Co-Owner: THE BARBARA Y T LEE 2006 TRUST
Mailing Address:
975 MASS AVENUE
UNIT 405
ARLINGTON, MA 02476

Prop ID: 55.C-1-406
Prop Location: 975 MASS AVE UNIT 406 Arlington, MA
Owner: MORAIS ANGELA S
Co-Owner:
Mailing Address:
975 MASS AVENUE #406
ARLINGTON, MA 02476

Prop ID: 55.C-1-407
Prop Location: 975 MASS AVE UNIT 407 Arlington, MA
Owner: MARTIN GWENDOLYN
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 407
ARLINGTON, MA 02476

Prop ID: 55.C-1-408
Prop Location: 975 MASS AVE UNIT 408 Arlington, MA
Owner: DING XIAOJUAN
Co-Owner:
Mailing Address:
125 JOHNSON RD
WINCHESTER, MA 01890

Prop ID: 55.C-1-409
Prop Location: 975 MASS AVE UNIT 409 Arlington, MA
Owner: DIMINO MICHAEL /TRUSTEE
Co-Owner: MICHAEL H DIMINO TRUST
Mailing Address:
195 EDENFIELD AVE
WATERTOWN, MA 02472

Prop ID: 55.C-1-501
Prop Location: 975 MASS AVE UNIT 501 Arlington, MA
Owner: HOEFER ROBERT F/TRUSTEE
Co-Owner: ROBERT HOEFER FAMILY TRUST
Mailing Address:
975 MASS AVENUE #501
ARLINGTON, MA 02476

Prop ID: 55.C-1-502
Prop Location: 975 MASS AVE UNIT 502 Arlington, MA
Owner: ALI SULEIMAN
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 502
ARLINGTON, MA 02476-4546

Prop ID: 55.C-1-503
Prop Location: 975 MASS AVE UNIT 503 Arlington, MA
Owner: FREDERICK JOHN B
Co-Owner:
Mailing Address:
975 MASS AVENUE #503
ARLINGTON, MA 02476

Prop ID: 55.C-1-504
Prop Location: 975 MASS AVE UNIT 504 Arlington, MA
Owner: BACHINI REGINA M
Co-Owner:
Mailing Address:
975 MASS AVENUE #504
ARLINGTON, MA 02476

Prop ID: 55.C-1-505
Prop Location: 975 MASS AVE UNIT 505 Arlington, MA
Owner: FOLEY JAMES & KATHLEEN/TRS
Co-Owner: JIM AND KATHY 2008 TRUST
Mailing Address:
975 MASS AVENUE #505
ARLINGTON, MA 02476

Prop ID: 55.C-1-506
Prop Location: 975 MASS AVE UNIT 506 Arlington, MA
Owner: DUNN JULIE B
Co-Owner:
Mailing Address:
975 MASS AVE #506
ARLINGTON, MA 02476

Prop ID: 55.C-1-507
Prop Location: 975 MASS AVE UNIT 507 Arlington, MA
Owner: YANG HONG
Co-Owner: CHEN XI
Mailing Address:
829 ALTAIRE WALK
PALO ALTO, CA 94303

Prop ID: 55.C-1-508
Prop Location: 975 MASS AVE UNIT 508 Arlington, MA
Owner: TOPAZ DONALD I
Co-Owner:
Mailing Address:
975 MASS AVENUE #508
ARLINGTON, MA 02476

Prop ID: 55.C-1-509
Prop Location: 975 MASS AVE UNIT 509 Arlington, MA
Owner: DICIACCIO FRANK N & NANCY
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 509
ARLINGTON, MA 02476

Legal Notice of Charge Authorization

LEGAL NOTICE CHARGE AUTHORIZATION

DATE: 9/2/2020

TO: legals@wickedlocal.com

I hereby authorize Community Newspapers to bill me directly for the legal notice to be published in the Arlington Advocate newspaper on _____ for a public hearing with the Arlington Conservation Commission to review a project at the following location: Wellington Park

Thank you.

Signed:



Andrew Keel, PLA
Project Manager, Landscape Architect
Hatch Associates Consultants, Inc.

Send bill to:

Emily Sullivan
730 Massachusetts Avenue
Arlington, MA 02476
Phone: 781-316-3012
Esullivan@town.arlington.ma.us

Appendix A – Narrative

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1. Introduction

On behalf of the Applicant, the Town of Arlington, Hatch is filing the enclosed Notice of Intent (NOI) Application with the Arlington Conservation Commission and Massachusetts Department of Environmental Protection (MassDEP) for revitalization of the Mill Brook corridor and adjacent Wellington Park (Appendix A – Figure 1) Assessors Map 54, Parcel 1-1. The majority of proposed activities take place within the FEMA-defined regulatory floodway or within the floodplain. This is a Phase III of the subject project. Phase II NOI for Mill Brook Corridor and Wellington Park Revitalization Project was prepared by Weston & Sampson in January 2019 and approved in February 2019 (DEP File No. 091-035).

The focus of the project as proposed in this NOI involves:

- Removal of (3) existing trees varying in size (4" dbh. Mulberry, 10" dbh. Mulberry, 16" dbh. Norway Maple) and invasive vegetation
- Modifications to existing boardwalk platform and transition to new porous path
- Installation of 6' wide porous bituminous concrete pathway (2,355 square feet)
- Installation of picnic bench over a concrete pad
- Installation of Naturalistic Exploration Play Area (boulders and black locust logs)
- Construction of stormwater BMP - bioretention basin, forebay and vegetated swale
- Planting of approximately 14 new 1-2" caliper canopy trees
- Planting of approximately 206 new understory trees and shrubs
- Planting approximately 2,215 new herbaceous plants

Plans for the locations of these removals and improvements within the park can be found in Appendix G – Plans.

2. Background and Existing Conditions

Wellington Park is a 2.72-acre public recreational park located in central Arlington, MA adjacent to Arlington High School. The project site is bordered by Grove Street to the east, Mill Brook to the north and north-west, private and Town-owned properties to the south-west.

Mill Brook crosses the northern edge of the site and flows from west to east. The existing banks are generally armored with grouted riprap. Sections of grouted riprap are eroded along the normal waterline. The banks of the brook transition to a stone and masonry wall on the east side of the park as it approaches the culvert that passes under Grove Street. This stone and masonry wall is in fair condition. Recent upgrades to the brook as part of the Wellington Brook Phase 2 improvements project included creation of a flood storage area. This storage is approximately 4 ft. deep from the existing ground surface and the bottom of new flood storage. The eastern half of the flood storage area ranges from approximately 1 to 2 feet lower than the FEMA 100-year floodplain. The side slopes near the inlet of the flood storage area are reinforced with riprap, with natural stone weirs in the Mill Brook downstream of the inlet and outlet to channel flow into the flood storage area. The flood storage capacity during the FEMA 100-year event is approximately 70 cubic yards.

Existing structures in Wellington Park include brick columns at the park entrance on Grove Street, five tennis courts enclosed by fences, and a large climbing structure made up of wood poles, rope line, and supporting guywires. The site also includes a pedestrian footpath, which is informal in some places and made of compacted earth/stone dust in other areas. At the westernmost end of the site, there is an existing wooden footbridge that crosses Mill Brook towards Dudley street.

The proposed project seeks to improve the park site universal accessibility and connectivity of recreation paths, install recreation amenities like a picnic table, bottle filler, and exploration/seating area, improve water quality of stormwater runoff flowing through park lands and enhance park vegetation quality and habitat (including invasive species control).

3. Environmental Considerations

Impacted environmental resource areas include riverfront area, 100-year flood zone and the bank. Each of these impact areas are discussed in further detail, below.

An estimated 2,725 square feet of work will be within the 100-year flood zone. The proposed regrading occurs in the location of the naturalistic exploration area all between elevations 62 and 63. Two small earth mounds are proposed as part of the exploration area, one of which falls within the 100-year flood zone. This mound accounts for approximately 40 cubic feet of fill. The proposed grade within the natural log and boulder feature of the exploration area will be lowered approximately 12" for a cut quantity of approximately 600 cubic feet. These areas net out for a total cut quantity of 560 cubic feet.

Approximately 22,780 square feet of riverfront area is within the limit of work. This work will include bioretention basin, outfall vegetated swale, porous bituminous concrete paving and invasive removals. The creation of bioretention pond storage area requires a 1' high berm on one side. The fill created by this berm is mitigated by the excavated bioretention surface area. The permeable pavement path is proposed to be at grade, except by a small raise in grade where the grass swale passes under the path. The fill there is mitigated by the excavated swale, invasive species removal and pedestrian path. This area is previously developed riverfront area (maintained lawn area, with the exception of the Japanese knotweed). By removing invasive vegetation and planting native species the ecological value of the Brook will be improved and the riverfront area will become a more diverse habitat for local species.

Approximately 8 LF of bank disturbance will occur where the shallow vegetative swale meets the bank. This area is currently made up of placed riprap. The riprap in this area will be temporarily moved in order to grade the shallow swale depression and then replaced in kind at the same elevation and location.

The only change in pervious area is near the tennis court entry toward the main park entrance (within the 50ft and 100ft riverfront buffer), where 100 square feet of stone dust path and lawn will be converted into concrete pad for a picnic table, and 234 square feet of concrete which lines the bioretention forebay (within the 100ft and 200ft riverfront buffer). This impervious area is not any closer to Mill Brook than existing impervious area at the site.

4. Meeting Riverfront Standards for Redevelopment Projects

The riverfront area within the limits of this project was previously developed as a recreational park and most recently altered with the completion of the pervious Wellington Park and Mill Brook - Phase 2 project creation of flood storage area and extension of paths and boardwalk. All proposed work at this site is considered re-development work in riverfront area. Each standard for work within the riverfront for redevelopment projects (per 310 CMR 10.58 (5)) are provided below, followed by an explanation on how the project meets each standard.

- (a) *At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40.*

Proposed work includes a bioretention basin, vegetated swale as well as removal of invasive species. The biobasin, a water quality BMP, controls parts of the existing impervious areas currently draining to the brook within the project area and will reduce sediment loads and other pollutants, therefore improves quality of runoff entering the river. This project will result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40.

- (b) *Stormwater management is provided according to standards established by the Department.*

Per Appendix C of the Notice of Intent, this project will adhere to the stormwater standards established by the Department.

- (c) *Within 200 foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25 foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The porous bituminous concrete footpath, boardwalk transition, exploration/play area, picnic table, bottle filler, biobasin and vegetated swale will all be within previously altered area (maintained lawn and man-made bank). Invasive species management work will be in accordance with 310 CMR 10.58(5)(f) as this area is a degraded riverfront area (invasive species dominated area which does not provide optimal riverfront area habitat.) The project will provide improved habitat with a variety of native species being planted at the site.

- (d) *Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).*

Proposed work is within the 200 ft riverfront area, however the work will be in accordance with 310 CMR 10.58(5)(f) as much of the work (invasive species maintenance, biobasin and porous bituminous concrete paving) is within a degraded riverfront area (maintained lawn and invasive species dominated area, neither of which currently provide significant riverfront area habitat).

- (e) *The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The area of proposed work within the riverfront area is 22,780 sf. Total riverfront area on the parcel is 300,000 sf. Thus, this project will alter 7.6 percent of the site's riverfront area. The work will be in accordance with 310 CMR 10.58(5)(f) as much of the work (invasive species maintenance, biobasin, exploration area and porous bituminous concrete paving) is within a degraded riverfront area.

- (f) *When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to criteria shall begin at the riverfront area boundary. Restoration shall include:*
- 1. removal of all debris, but retaining any trees or other mature vegetation;*
 - 2. grading to a topography which reduces runoff and increases infiltration;*
 - 3. coverage by topsoil at a depth consistent with natural conditions at the site; and*
 - 4. seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;*

Restoration efforts will include creation of a biobasin area with a shallow vegetated swale outfall which will allow additional infiltration of surface runoff before entering the Brook, topsoil will be installed over disturbed degraded areas, various native species will be planted to provide a more natural environment. Three trees are proposed to be removed based on proximity to the proposed pathway, overall health and species habitat value. As part of the project (14) new canopy trees are being proposed. With the proposed tree removals the surrounding grade can be regraded and lowered to reduce runoff and potential erosion toward the Brook and provide safe access for both the MWRA sewer easement and park users.

- (g) *When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 through 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Energy and Environmental Affairs.*

Not applicable.

- (h) *The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition. Prior to requesting the issuance of the Certificate of Compliance, the applicant shall demonstrate the restoration or mitigation has been successfully completed for at least two growing seasons.*

Per Arlington conservation commission requirements, the area will be monitored for three years to ensure success of planting areas.

5. Vegetation Removal and Replacement

Per Section 24 of the Arlington Regulations for Wetlands Protection (March 1, 2018), vegetation that is removed within the jurisdiction of the conservation commission must be replaced in-kind. The vegetation to be removed includes invasive species, and trees (3).

The proposal to remove three trees is based on proximity to the proposed pathway, overall tree health and species habitat value. As part of the project (14) new canopy trees are being proposed. Replacement of the above-mentioned vegetation (invasives and trees) will provide an opportunity to create a more diverse native habitat.

See appendix H – sheet L-7 plant schedule for full list of species. All of the proposed plant material is native to the area and most of the selected material is included in the Town of Arlington preferred plant list.

6. Climate Change Resiliency

Per Section 31 of the Arlington Regulations for Wetlands Protection (March 1, 2018), the Applicant shall consider the project's adaptation to potential climate change impacts by addressing the following:

- (1) *Describe project design considerations to limit storm and flood damage during extended periods of disruption and flooding as might be expected in extreme weather events. See Vegetative Wetlands Section 21, Land Subject to Flooding Section 23, and Adjacent Upland Resource Area Section 25, of these Regulations.*

Adherence to requirement #1: Currently, the park's existing lawn area - specifically the zone to the north of the tennis courts - stays wet following rain events. This area is low-lying and acts as a basin, receiving stormwater that flows from adjacent lawn areas of slightly higher elevation, as well as from flow coming down Prentiss Road. Surface water in this pocket has been observed to drain slowly, likely due to reasons including soil compaction. The prolonged wet condition negatively impacts use of the park by visitors. Two impacts in particular are: (1) the existing lawn areas are used as informal pedestrian paths across the park and, when wet, reduce pedestrian movement; and (2) the existing informal footpath to the bridge is composed

of compacted earth, and when wet park users tend to walk on the vegetated edges, further contributing to the expanded degradation of vegetation.

To address these impacts of storm events to visitors' use of the park, recent park improvements replaced existing stone dust walks with porous bituminous concrete providing a more stable walking surface and a slight raising of the walk grade. The current project proposed to expand the porous pathway network providing connectivity to pedestrian bridge and adjacent Prentiss Road, using the same materials and methods as the recent Wellington Phase 2 project. This will provide a pedestrian pathway that can be used sooner after storm events than the current condition permit and will protect the vegetation adjacent to the path. Currently compacted green areas on the west side of the park will receive loam soil and woodland or meadow native seed that is not intended for regular mowing (see appendix F for operations and maintenance). When established the meadow grasses will slow the runoff and promote infiltration. Proposed seed establishment fencing along the new porous footpaths will limit pedestrian traffic onto the newly graded areas.

The existing impervious surfaces within the park are the tennis courts; perimeter drains are at the edges of the courts, and the drains are connected to storage directly under them.

The tennis courts are outside of this project's limit of work. A small area with benches and receptacles is adjacent to two gated tennis court access points was paved recently as part of phase 2 with cast-in-place concrete surfacing for the following reasons: to provide an easy-to-maintain area; to offer a stable walking surface around the benches and receptacles; to reduce heat absorption; and to minimize settlement. Similarly, adjacent to this existing sitting area, this project proposes a picnic table over a concrete pad and small porous walkway extension leading to it. The amount of impervious surface being added is approximately 100sf.

The regrading and net removal of approximately 560 cubic feet of soil in the area of the naturalistic exploration area will provide new flood storage area within the 100-year flood zone.

This project's limit of work does not extend to the north bank of the Brook. Current Brook flooding is accommodated mostly by overflow over the north bank; it extends into a vegetated area where no formal pathways exist, thus limiting impacts to current park use.

(2) Describe project stormwater surface runoff, which may increase due to storm surges and extreme weather events, and how this will be managed / mitigated to prevent pollution (including nutrients from fertilizers, roadway runoff, etc.) from entering the resource area with consideration of eliminating impervious surfaces as feasible. See Stormwater Management Section 33 of these Regulations.

Adherence to requirement #2: Currently storm runoff from Prentiss Road enters the park at the north-east end of the roadway pavement. The area draining to this point is approximately 0.50 acre in size and is 95% impervious. This runoff brings sediments onto the park lawns and erodes lawn areas, and results in soggy conditions limiting use of recreational areas after rainfall. The proposed biobasin with a sediment forebay (234 sf of new impervious area), will collect the sediments and trash within the paved forebay and will direct runoff to the bioretention area. The bioretention area is designed to store and infiltrate the first flush runoff volume (0.5" of

rainfall over the contributing impervious areas) and safely convey the runoff from larger storm frequencies through the outfall weir into the outfall vegetated swale in a controlled fashion. This will limit the park areas currently being inundated by runoff.

- (3) *Describe project vegetation / planting plans and other measures to improve the resiliency of the wildlife habitat of the resource area to withstand potential temperature and rainfall changes (drought and excess) due to climate change. See Vegetation Removal and Replacement Section 24 of these Regulations.*

Adherence to requirement #3: The south bank is lined with a handful of existing deciduous trees and tree stumps offering wildlife habitat, shade, and temperature mitigation. Most of the existing trees and stumps are located along the edge of the Brook. A total of 8 new shade trees are proposed along with (6) white pine. The proposed trees will provide new canopy cover reducing the effects of heat island effect.

The pruning of (4) large existing trees is also proposed, (3) Norway Maples and (1) Mulberry. The pruning of the existing invasive trees to remain will limit the potential for spread and reduce competition with the newly planted native trees which will improve the park wildlife habitat and ecological value.

Clearing and grubbing will occur so that overgrown plant material is removed, and the growing condition is improved for the trees to remain. The woodland areas of the park do not currently have a significant understory layer. New understory trees and shrubs will be planted to provide a diverse habitat. The existing groundcover layer of the park is also in poor condition. Herbaceous groundcovers, along with native woodland and meadow seed mixes are proposed to reduce the amount of lawn and provide habitat value.

A great deal of invasive plant removal was completed as part of the previous Wellington Park – Phase 2 improvements. A few existing stands of knotweed have survived along with areas of bittersweet, and garlic mustard. The removal of this remaining invasive vegetation as part of this project will again improve wildlife habitat and ecological diversity.

All proposed plant material (canopy, understory and groundcover) is native and selected for its ability to provide habitat value, pest resistance, wind resistance, heat stress resistance and drought tolerance as well as improve the species diversity of Wellington Park and Mill Brook.

Appendix B – Figures

Figure 1: LOCUS MAP

Figure 2: NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM MAP (NHESP)

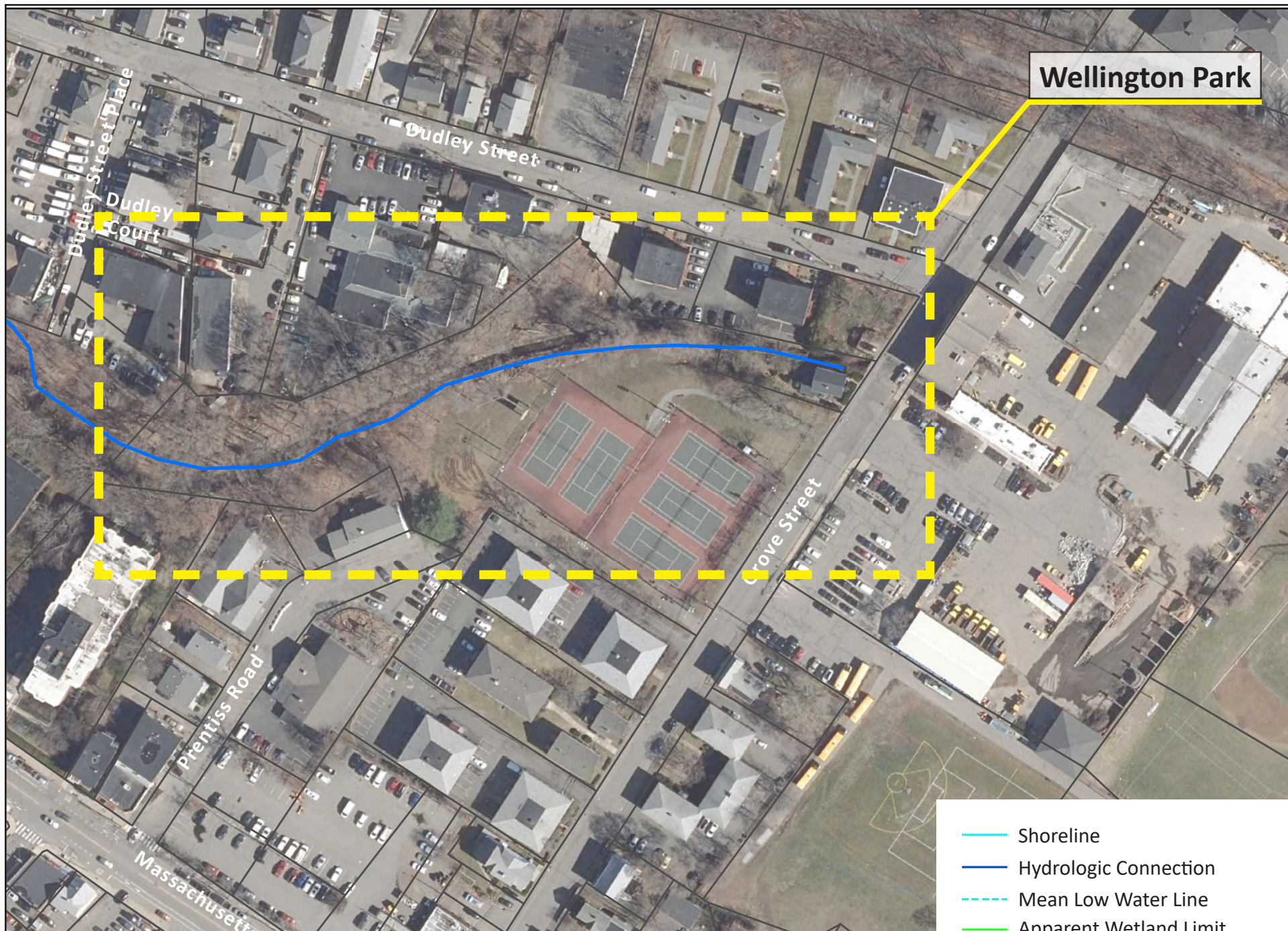
Figure 3: DEP WETLANDS MAP

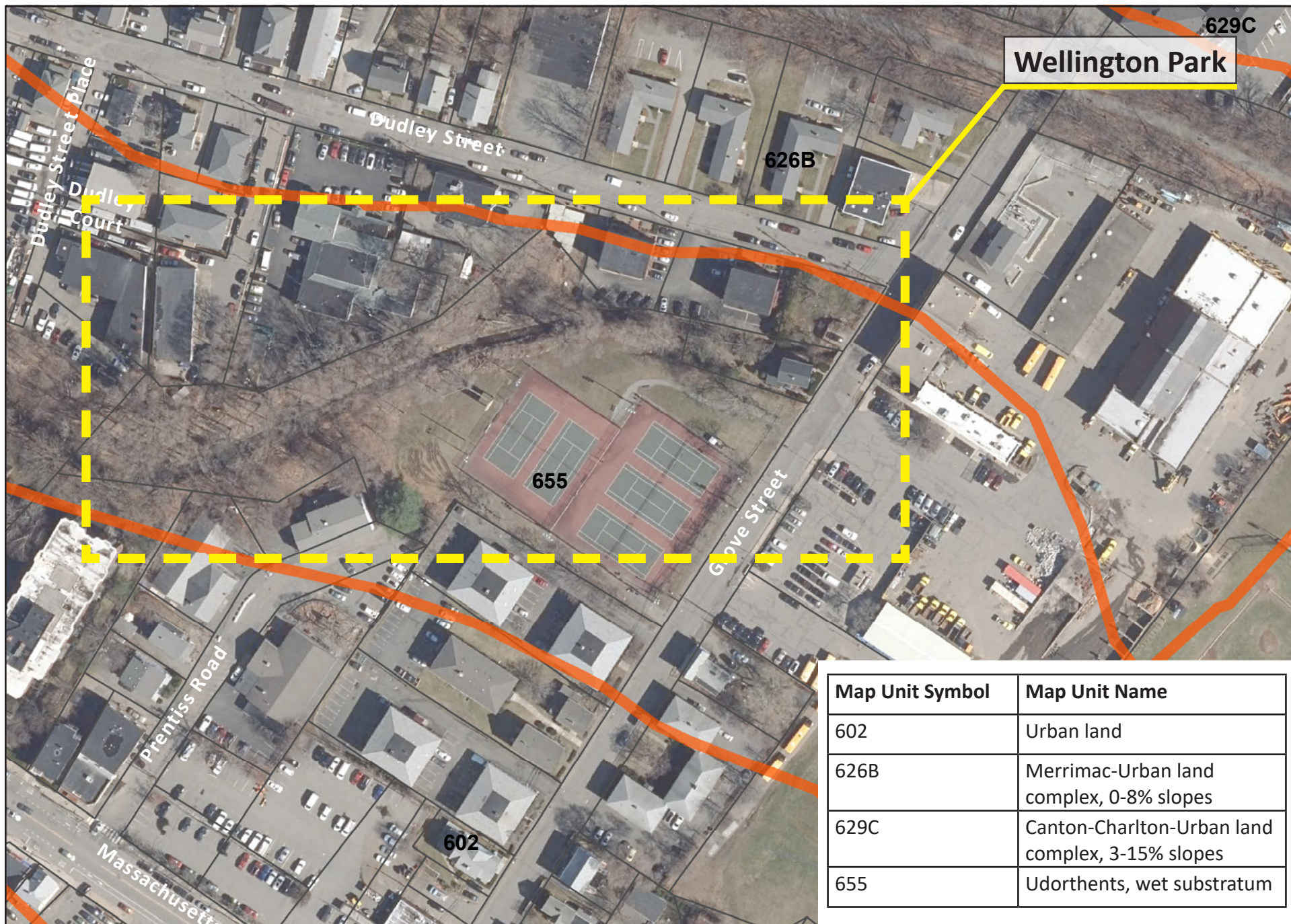
Figure 4: NRCS SOILS MAP

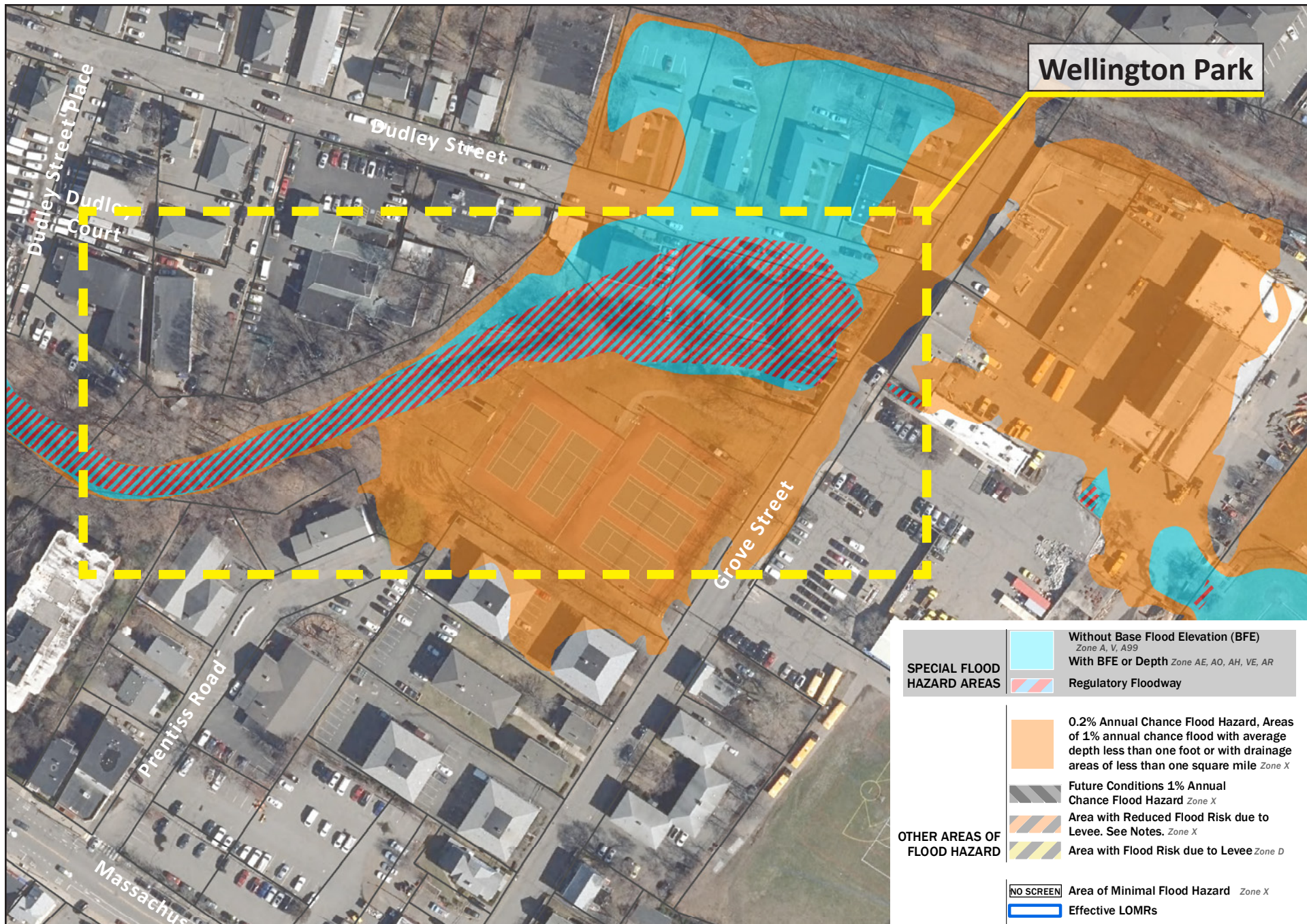
Figure 5: FEMA FIRM FLOODPLAIN MAP











Appendix C – Stormwater Report



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

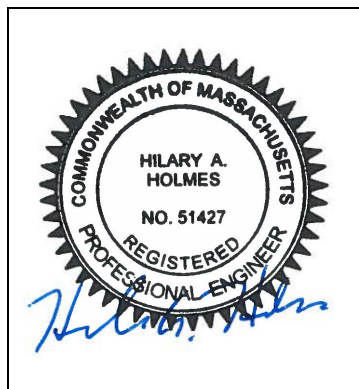
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Hilary A. Holmes 9/3/2020

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☐ New development
- ☒ Redevelopment
- ☐ Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☒ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☒ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☒ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): Porous pavement for new paths

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☒ Soil Analysis provided.
- ☒ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☒ Static
 - ☐ Simple Dynamic
 - ☐ Dynamic Field¹
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☒ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☐ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - ☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☐ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
 - ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - ☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- ☒ The BMP is sized (and calculations provided) based on:
 - ☒ The ½" or 1" Water Quality Volume or
 - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☒ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☒ Name of the stormwater management system owners;
 - ☒ Party responsible for operation and maintenance;
 - ☒ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☒ Description and delineation of public safety features;
 - ☒ Estimated operation and maintenance budget; and
 - ☒ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☒ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

1. Introduction

The Town of Arlington proposes improvements to a portion of the town-owned Wellington Park and the south bank of the adjacent town-owned segment of Mill Brook, located off Grove Street in Arlington, Massachusetts. The proposed work will be implemented in one phase. It will include regrading and installation of walking paths, landscape improvements including exploration play area, picnic table, educational/interpretive signage, removal of invasive plant materials (with replacement per Town regulations), and a water quality biobasin.

Existing lawn areas will require minimal grading, and they will be loamed and seeded. Existing invasive species will be removed and either replaced with no mow/native grasses. The following sections describe the stormwater implications of the proposed renovations, including design considerations and compliance with the Massachusetts Stormwater Standards.

2. Background and Existing Conditions

Soils map information is available from the Natural Resources Conservation Service Web Soil Survey.



Soils at Wellington Park are classified as Udorthents, wet substratum. Udorthents are areas from which soil has been excavated and/or deposited due to construction operations. These areas have been disturbed to such an extent that the natural layers of soil are no longer recognizable and are no longer a major factor in determining limitations or capabilities of the land. In the previous phase of the project, the site was surveyed and a series of test pits were excavated across the site. Soil data is available in a separate summary by W&S, dated 2018.

Based on the test pits shown in this report, soils generally consist of sandy and gravelly materials. Soil boring data can be found in Appendix D.

Land cover across the project area is consistent with its use as an existing park. The site is covered in grassed areas, with pedestrian paths. The park is bounded by Grove Street to the south, Prentiss Road and multi-family residential to the west, and Mill Brook to the immediate north and east. This project will disturb 22780 square feet or. 0.52 acres of land.

Stormwater runoff at the site presently consists of runoff from the path and from Prentiss Road into grassed/vegetated areas of the park. Runoff brings sediments and debris to the park that eventually can enter the brook. Soggy conditions of lawn are observed after rain events. There are no drainage utilities in the project area except for the stormwater storage and underdrains under existing tennis courts.

3. Stormwater Standards

Standard 1: No New Untreated Discharges

The proposed project will create no new untreated discharges. A new pedestrian path extension will be installed in place of informal existing compacted earth pathways; it will be installed as permeable pavement and will remain pervious. A picnic table over a concrete pad and small walkway extension leading to it is proposed. The amount of impervious surface being added is 160 sf and it is abutting a large grassed area.

The proposed biobasin with a sediment forebay (234 sf of new impervious area), will keep the sediments and trash away within the paved forebay and will direct runoff to the bioretention area. Bioretention area is designed to store and infiltrate the first flush runoff volume (0.5" of rainfall over the contributing impervious areas) and safely convey the runoff from larger storm frequencies through the outfall weir into the outfall grass swale in a controlled fashion.

Impervious surfaces are so small that they do not affect runoff curve numbers used in TR55 hydrologic calculations and the time of concentration for existing and proposed conditions also remain the same. The proposed biobasin is designed as a water quality control BMP. Due to the limitation of space and flat grades the basin will not provide noticeable reduction of peak discharges, however some attenuation is being achieved. The table below summarizes the pre- and post- discharge conditions from the entire park site. The hydrology report are included at the end of this section.

PEAK DISCHARGE SUMMARY					
STORM FREQUENCY	1-YEAR (CFS)	2-YEAR (CFS)	10-YEAR (CFS)	25-YEAR (CFS)	100-YEAR (CFS)
EXISTING	1.65	2.22	4.23	5.97	9.82
PROPOSED	1.64	2.21	4.21	5.94	9.76

Standard 3: Recharge

Due to the land cover under proposed conditions being similar to existing conditions and impervious areas being disconnected, additional recharge does not need to be provided; however, the biobasin is designed without underdrains and will provide required recharge volume based on contributing impervious areas. The calculations are included in the end of this section.

Standard 4: Water Quality

The proposed site improvements consist of one disconnected impervious area surrounded by large expanses of grassed park space. As such, no dedicated stormwater quality treatment facilities are required for the new improvements. The proposed biobasin is designed to treat runoff from off-site impervious areas to the maximum extent practicable. The water quality volume provided by the basin exceeds ½" of rainfall over the project and off-site impervious areas. The water quality calculations are included in the end of this section

Standard 5: Land Uses with Higher Potential Pollutant Loads (LUHPPLs)

Not applicable; the project is not subject to higher potential pollutant loads

Standard 6: Critical Areas

There will be no new discharge to critical areas.

Standard 7: Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable

This project consists of the redevelopment of an existing site. All attempts have been made to improve the existing stormwater conditions and meet the Massachusetts Stormwater Standards to the maximum extent practicable. This includes the use of Low Impact Development measures like porous pavement for new paths and disconnected impervious surfaces. In addition, the proposed biobasin will provide recharge and water quality control for of the off-site contributing areas.

Standard 8: Construction Period Pollution Prevention and Erosion and Sediment Control

A Construction Period Pollution Prevention and Erosion and Sediment Control plan has been created and is attached to the stormwater report

Standard 9: Operation and Maintenance Plan

An Operation and Maintenance plan has been created and is included in Appendix F.

Standard 10: Prohibition of Illicit Discharges

By the nature of the proposed work the majority of site improvements will be a passive use with an absence of structural drainage system. There will be no opportunity for illicit discharges into a stormwater drainage system.

ILLICIT DISCHARGE COMPLIANCE STATEMENT

Andrew Keel, PLA, Hatch, 27 Congress Street, Salem, MA 01970

Date: September 3, 2020

This statement is provided in accordance with the provisions of the Massachusetts Stormwater Management Standard 10 and of the Massachusetts Stormwater Management Handbook. Note the following:

- All stormwater management systems contain no connection to the site's wastewater sewer system or to any other non-stormwater collection system.
- Groundwater collection systems on the site are not connected to the site's wastewater sewer system or to any other non-stormwater collection system.
- The facility's Operations & Maintenance Plan is designed to prevent any discharge of non-stormwater to the drainage system.
- Any illicit discharges identified during or after construction will be immediately disconnected.

Conclusion

The project as designed is consistent with the intent of the Massachusetts Stormwater Standards, and that the design utilizes the best approach to minimizing offsite impacts

4. Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan

SECTION 1: Introduction

The Town of Arlington proposes improvements to a portion of the town-owned Wellington Park and the south bank of the adjacent town-owned segment of Mill Brook, located off Grove Street in Arlington, Massachusetts. The proposed work will be implemented in one phase. It will include regrading and installation of walking paths, landscape improvements including exploration play area, picnic table, educational/interpretive signage, removal of invasive plant materials (with replacement per Town regulations), and a water quality biobasin. A

Existing lawn areas will require minimal grading, and they will be loamed and seeded. Existing invasive species will be removed and either replaced with no mow/native grasses. The following sections describe the stormwater implications of the proposed renovations, including design considerations and compliance with the Massachusetts Stormwater Standards. As part of this project, this “Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan” has been created to ensure that no further disturbance to the wetland resource is created during the project.

Construction sequencing will follow these steps:

- Stake out limits of disturbance
- Install perimeter sedimentation barriers at downstream limits of grading or clearing
- Install tree protection measures
- Perform selective clearing and grubbing, including removal of invasive plants
- Stockpile any removed topsoil and install sedimentation barriers around stockpiles
- Grade areas for swale, pathways and exploration /play area. Apply temporary stabilization
- Install concrete forebay and weir wall.
- Install boardwalk transition, porous pavement pathways, other site furnishings and exploration area features
- Once adjacent disturbed areas are stabilized, excavate biobasin, install outlet concrete weir structure, and install stone and biosoil mix. Seed and mulch berm and surrounding areas.
- Install planting and plant protection fencing
- Once all project areas are fully stabilized, remove any remaining sedimentation barriers and re-stabilize and remaining disturbed areas.

SECTION 2: Construction Period Pollution Prevention Measures

Best Management Practices (BMPs) will be utilized as Construction Period Pollution Prevention Measures to reduce potential pollutants and prevent any off-site discharge. The objectives of the BMPs for construction activity are to minimize the disturbed areas, stabilize any disturbed areas, control the site perimeter and retain sediment. Both erosion and sedimentation controls and non-stormwater best management measures will be used to minimize site disturbance and ensure compliance with the performance standards of the WPA and Stormwater Standards. Measures will be taken to minimize the area disturbed by construction activities to reduce the

potential for soil erosion and stormwater pollution problems. In addition, good housekeeping measures will be followed for the day-to-day operation of the construction site under the control of the contractor to minimize the impact of construction. This section describes the control practices that will be in place during construction activities. Recommended control practices will comply with the standards set in the MA DEP Stormwater Policy Handbook.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

In order to minimize disturbed areas, work will be completed within well-defined work limits. These work limits are shown on the construction plans. The Contractor shall not disturb native vegetation in the undisturbed wetland area without prior approval from the Engineer. The Contractor will be responsible to make sure that all of their workers and any subcontractors know the proper work limits and do not extend their work into the undisturbed areas. The protective measures are described in more detail in the following sections.

2.2 Control Stormwater Flowing onto and through the project

Construction areas adjacent to wetland resources will be lined with compost filter sock. The socks will be inspected daily, and accumulated silt will be removed as needed.

2.3 Stabilize Soils

The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, mulching, the use of erosion control mats, or other protective measures shall be provided as specified. The Contractor shall take account of the conditions of the soil where erosion control seeding will take place to ensure that materials used for re-vegetation are adaptive to the sediment control.

2.4 Proper Storage and Cover of Any Stockpiles

The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project and shall require written approval of the Engineer. Adequate measures for erosion and sediment control such as the placement of compost filter socks around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation. There shall be no storage of equipment or materials in areas designated as wetlands. The Engineer may designate a particular area or areas where the Contractor may store materials used in his operations.

2.5 Perimeter Controls and Sediment Barriers

Erosion control measures, including perimeter controls (compost filter socks) are shown on the drawings in Appendix G, specifically on drawing SP-1 Site Preparation Plan.

2.6 Storm Drain Inlet Protection

There are no storm drains in the work area.

2.7 Retain Sediment On-Site

The Contractor will be responsible to monitor erosion control measures. Whenever necessary the Contractor will clear sediment from the compost filter tube and silt curtain that have been silted up during construction. Daily monitoring should be conducted and recorded.

2.8 Material Handling and Waste Management

Materials stored on-site will be stored in a neat, orderly manner in appropriate containers. Materials will be kept in their original containers with the original manufacturer's label. Substances will not be mixed with one another unless recommended by the manufacturer. Waste materials will be collected and stored in a securely lidded metal container from a licensed management company. The waste and any construction debris from the site will be hauled off-site daily and disposed of properly. The contractor will be responsible for waste removal. Manufacturer's recommendations for proper use and disposal will be followed for materials. Sanitary waste will be collected from the portable units a minimum of once a week, by a licensed sanitary waste management contractor.

2.9 Designated Washout Areas

The Contractor shall use washout facilities at their own facilities, unless otherwise directed by the Engineer.

2.10 Proper Equipment/Vehicle Fueling and Maintenance Practices

On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the risk of leakage. To ensure that leaks on stored equipment do not contaminate the site, oil-absorbing mats will be placed under oil-containing equipment during storage. Regular fueling and service of the equipment may be performed using approved methods and with care taken to minimize chance of spills. Repair of equipment or machinery within the 100' water resources area shall not be allowed without the prior approval of the Engineer. Any petroleum products will be stored in tightly sealed containers that are clearly labeled with spill control pads/socks placed under/around their perimeters.

2.11 Equipment/Vehicle Washing

The Contractor will be responsible to ensure that no equipment is washed on-site.

SECTION 3: Spill Prevention and Control Plan

The Contractor will be responsible for preventing spills in accordance with the project specifications and applicable federal, state and local regulations. The Contractor will identify a properly trained site employee, involved with the day-to-day site operations to be the spill prevention and cleanup coordinator. The name(s) of the responsible spill personnel will be posted on-site. Each employee will be instructed that all spills are to be reported to the spill prevention and cleanup coordinator.

3.1 Spill Control Equipment

Spill control/containment equipment will be kept in the Work Area. Materials and equipment necessary for spill cleanup will be kept either in the Work Area or in an otherwise accessible on-site location. Equipment and materials will include, but not be limited to, absorbent booms/mats, brooms, dust pans, mops, rags, gloves, goggles, sand, plastic and metal containers specifically for this purpose. It is the responsibility of the Contractor to ensure the inventory will be readily accessible and maintained.

3.2 Notification

Workers will be directed to inform the on-site supervisor of a spill event. The supervisor will assess the incident and initiate proper containment and response procedures immediately upon notification. Workers should avoid direct contact with spilled materials during the containment procedures. Primary notification of a spill should be made to the local Fire Department and Police Departments. Secondary Notification will be to the certified cleanup contractor if deemed necessary by Fire and/or Police personnel. The third level of notification (within 1 hour) is to the DEP or municipality's Licensed Site Professional (LSP). The specific cleanup contractor to be used will be identified by the Contractor prior to commencement of construction activities.

3.3 Spill Containment and Clean-Up Measures

Spills will be contained with granular sorbent material, sand, sorbent pads, booms or all of the above to prevent spreading. Certified cleanup contractors should complete spill cleanup. The material manufacturer's recommended methods for spill cleanup will be clearly posted and on-site personnel will be made aware of the procedures and the location of the information and cleanup supplies.

3.4 Hazardous Materials Spill Report

The Contractor will report and record any spill. The spill report will present a description of the release, including the quantity and type of material, date of the spill, circumstances leading to the release, location of spill, response actions and personnel, documentation of notifications and corrective measures implemented to prevent reoccurrence.

This document does not relieve the Contractor of the Federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302 and the State requirements specified under the Massachusetts Contingency Plan (M.C.P) relating to spills or other releases of oils or hazardous substances. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a twenty-four (24) hour period, the Contractor is required to comply with the response requirements of the above mentioned regulations. Spills of oil or hazardous material in excess of the reportable quantity will be reported to the National Response Center (NRC).

SECTION 4: Contact Information/Responsible Parties

Owner/Operator:
Emily Sullivan
Arlington Conservation Commission
730 Massachusetts Avenue
Arlington, MA 02476
(781) 316-3012

Engineer:
Andrew Keel, PLA
Hatch
27 Congress Street
Salem, MA 01970
978-740-0096

Site Inspector: TBD

Contractor: TBD

SECTION 5: Erosion and Sedimentation Control

Erosion and Sedimentation Control Drawings can be found in the Appendix G, specifically on drawing SP-1 Site Preparation Plan.

SECTION 6: Site Development Plan

The Site Development Plan is included in the attached plans found in the Appendix G.

SECTION 7: Operation and Maintenance of Erosion Control

The erosion control measures will be installed as detailed on the drawings. If there is a failure to the controls the Contractor, under the supervision of the Engineer, will be required to stop work until the failure is repaired. Periodically throughout the work, whenever the Engineer deems it necessary, the sediment that has been deposited against the controls will be removed to ensure that the controls are working properly.

SECTION 8: Inspection Schedule

During construction, the erosion and sedimentation controls will be inspected daily. Once the Contractor is selected, an onsite inspector will be selected to work closely with the Engineer to ensure that erosion and sedimentation controls are in place and working properly. An Inspection Form is included below.

INSPECTION FORM

INSPECTED BY: _____ DATE: _____ TIME: _____

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the wetlands?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?
			Are on-site construction traffic routes, parking, and storage of equipment and supplies located in areas not specifically designed for them?

SPECIFIC LOCATION, CURRENT WEATHER CONDITIONS, AND ACTION TO BE TAKEN:

OTHER COMMENTS:

PENDING THE ACTIONS NOTED ABOVE I CERTIFY THAT THE SITE IS IN COMPLIANCE WITH THE CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN.

SIGNATURE: _____ DATE: _____

Wellington Park - Revitalization of the Mill Brook Corridor
75% Design
Green Infrastructure Stormwater Calculations
Static Method

By: EUA
 Checked By: HH
 Date: 8/28/2020

Total Project Area(within LOD) (SF)	22,779
Open space/lawn/ parkland	20,377
Porous Asphalt (SF)	2,009
Impervious Area (SF)	393
Off-site Area draining to Biobasin (SF)	22,312
Impervious Area (SF)	21,156
Open space/lawn	1,156

Water Quality Volume Required (CF)	898
---	------------

(1/2" over impervious area)

Stormwater BMP Storage Volumes					
Stormwater BMP Facility	Total Drainage Area (SF)	Depth Of Layer (FT)	Void Ratio %	Storage Volume Provided (CF)	WQ Volume Required (CF)
Total Drainage Area (SF)	22,312				
Impervious Area (SF)	24,321				
Biobasin Ponding Area (SF)	933				
Biobasin Surface Area (SF)	700				
Temporary ponding		0.5	100%	408.25	
Biosoil mix		1.5	20%	279.90	
Stone later		1.0	40%	373.20	
Total				1061	898
% Water Quality Volume Requirement Met					118.2%

Hydrologic Soil Group Type A
 Target Depth Factor F (IN) 0.60
 Impervious Area to Biobasin ImpA (SF) 21,156

Recharge Volume Required Rv (CF)	RV=F*ImpA	1058
% Recharge Volume Requirement Met		100.3%

Soils based on borings loamy sand
 Infiltration Rawls rate F (IN/HR) 2.41
 Saturated Soil Conductivity (in/HR) 2.41
 Bottom Area A SF 933

Drawdown Time (HR)	T=Rv/(K*A)	5.65
Drawdown Time Requirement Met	72 hr max%	5.65 < 72

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Wellington Park, Arlington

TSS Removal Calculation Worksheet	B	C	D	E	F
	BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
	Bioretention Area	0.90	1.00	0.90	0.10
	Grass Channel	0.50	0.10	0.05	0.05
		0.00	0.05	0.00	0.05
		0.00	0.05	0.00	0.05
		0.00	0.05	0.00	0.05

Total TSS Removal =

95%

Separate Form Needs to
be Completed for Each
Outlet or BMP Train

Project: Wellington Park

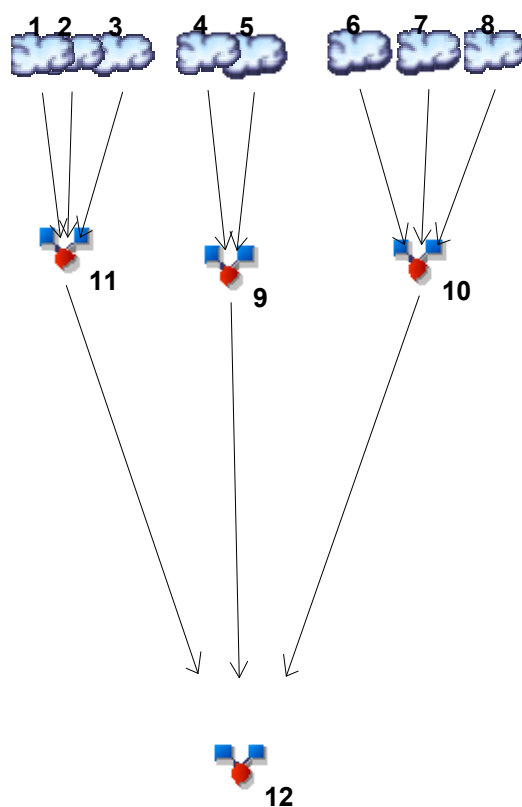
Prepared By: E. Adamowicz

Date: 8/28/2020

*Equals remaining load from previous BMP (E)
which enters the BMP

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12



Legend

Hyd.	Origin	Description
1	SCS Runoff	TO END OF PRENTISS
2	SCS Runoff	LAWN- MIDDLE
3	SCS Runoff	LAWN LOWER
4	SCS Runoff	TO MILL BROOK WEST
5	SCS Runoff	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	TO MILL BROOK CENTER
7	SCS Runoff	TO MILL BROOK - RESTORATION
8	SCS Runoff	TO MILL BROOK EAST
9	Combine	WEST TO RIVER
10	Combine	EAST TO RIVER
11	Combine	TO RIVER- CENTER
12	Combine	TOTAL SITE

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	-----	1.303	1.578	-----	2.012	2.412	3.061	3.660	4.379	TO END OF PRENTISS
2	SCS Runoff	-----	0.005	0.018	-----	0.046	0.077	0.137	0.198	0.277	LAWN- MIDDLE
3	SCS Runoff	-----	0.003	0.009	-----	0.023	0.039	0.068	0.099	0.139	LAWN LOWER
4	SCS Runoff	-----	0.023	0.072	-----	0.185	0.313	0.551	0.794	1.108	TO MILL BROOK WEST
5	SCS Runoff	-----	0.293	0.353	-----	0.447	0.535	0.677	0.808	0.966	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	-----	0.057	0.147	-----	0.333	0.537	0.910	1.288	1.775	TO MILL BROOK CENTER
7	SCS Runoff	-----	0.009	0.030	-----	0.077	0.129	0.228	0.330	0.462	TO MILL BROOK - RESTORATION
8	SCS Runoff	-----	0.016	0.048	-----	0.123	0.208	0.367	0.529	0.739	TO MILL BROOK EAST
9	Combine	4, 5,	0.299	0.412	-----	0.624	0.839	1.221	1.599	2.074	WEST TO RIVER
10	Combine	6, 7, 8,	0.079	0.224	-----	0.530	0.866	1.490	2.135	2.963	EAST TO RIVER
11	Combine	1, 2, 3,	1.307	1.604	-----	2.081	2.528	3.263	3.951	4.784	TO RIVER- CENTER
12	Combine	9, 10, 11	1.652	2.217	-----	3.220	4.225	5.974	7.685	9.821	TOTAL SITE
Proj. file: Existing H-H-OLD.gpw										Thursday, 08 / 27 / 2020	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.303	1	723	4,070	-----	-----	-----	TO END OF PRENTISS
2	SCS Runoff	0.005	1	735	45	-----	-----	-----	LAWN- MIDDLE
3	SCS Runoff	0.003	1	735	22	-----	-----	-----	LAWN LOWER
4	SCS Runoff	0.023	1	737	192	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.293	1	723	938	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.057	1	726	355	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.009	1	735	75	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.016	1	737	128	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.299	1	723	1,130	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.079	1	727	557	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	1.307	1	723	4,138	1, 2, 3,	-----	-----	TO RIVER- CENTER
12	Combine	1.652	1	723	5,825	9, 10, 11	-----	-----	TOTAL SITE
									267 of 350
Existing H-H-OLD.gpw					Return Period: 1 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

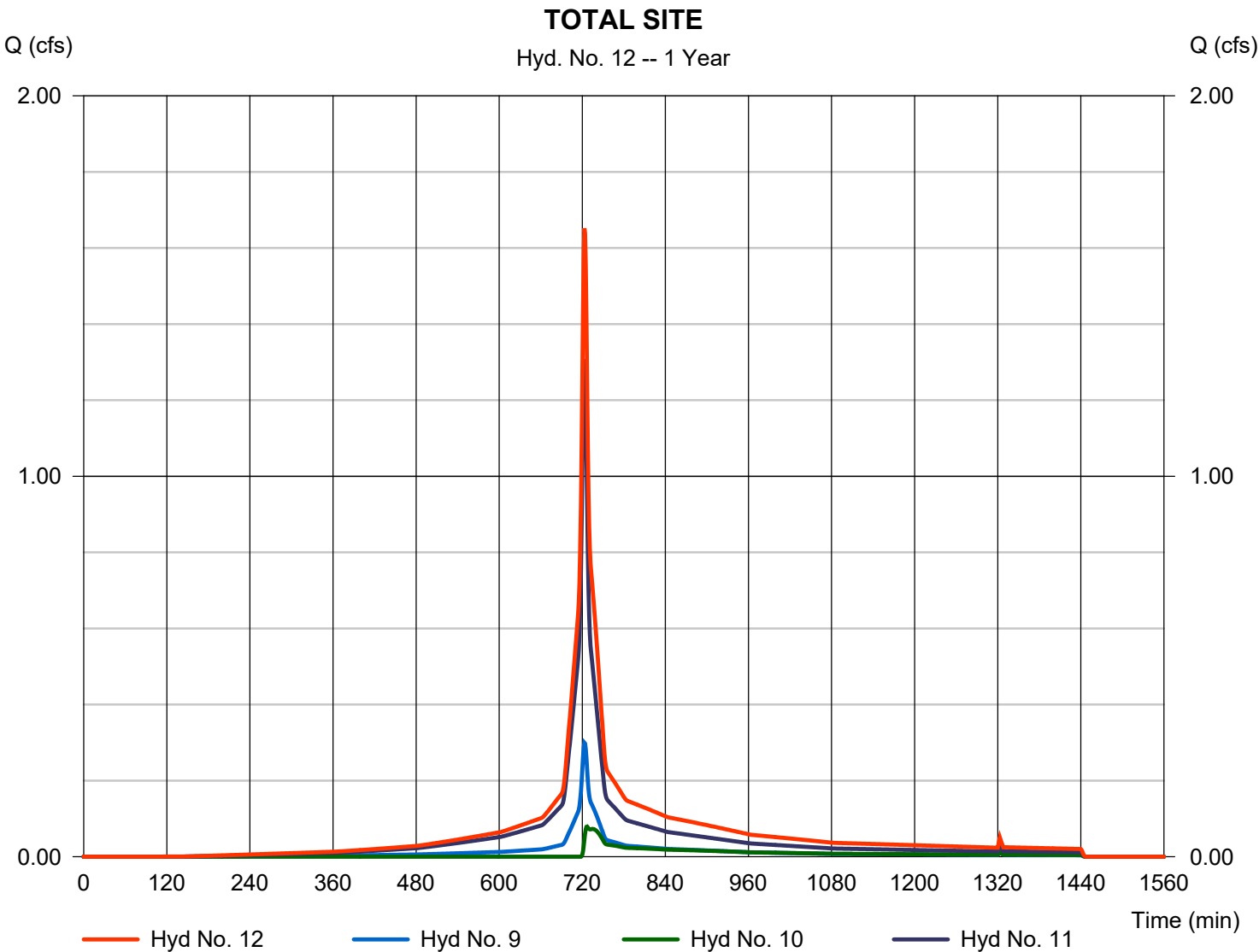
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 1.652 cfs
Storm frequency	= 1 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 5,825 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.578	1	723	4,987	-----	-----	-----	TO END OF PRENTISS
2	SCS Runoff	0.018	1	724	82	-----	-----	-----	LAWN- MIDDLE
3	SCS Runoff	0.009	1	724	41	-----	-----	-----	LAWN LOWER
4	SCS Runoff	0.072	1	725	348	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.353	1	723	1,141	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.147	1	725	616	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.030	1	724	136	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.048	1	725	232	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.412	1	723	1,490	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.224	1	725	984	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	1.604	1	723	5,109	1, 2, 3,	-----	-----	TO RIVER- CENTER
12	Combine	2.217	1	723	7,583	9, 10, 11	-----	-----	TOTAL SITE
									269 of 350
Existing H-H-OLD.gpw					Return Period: 2 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

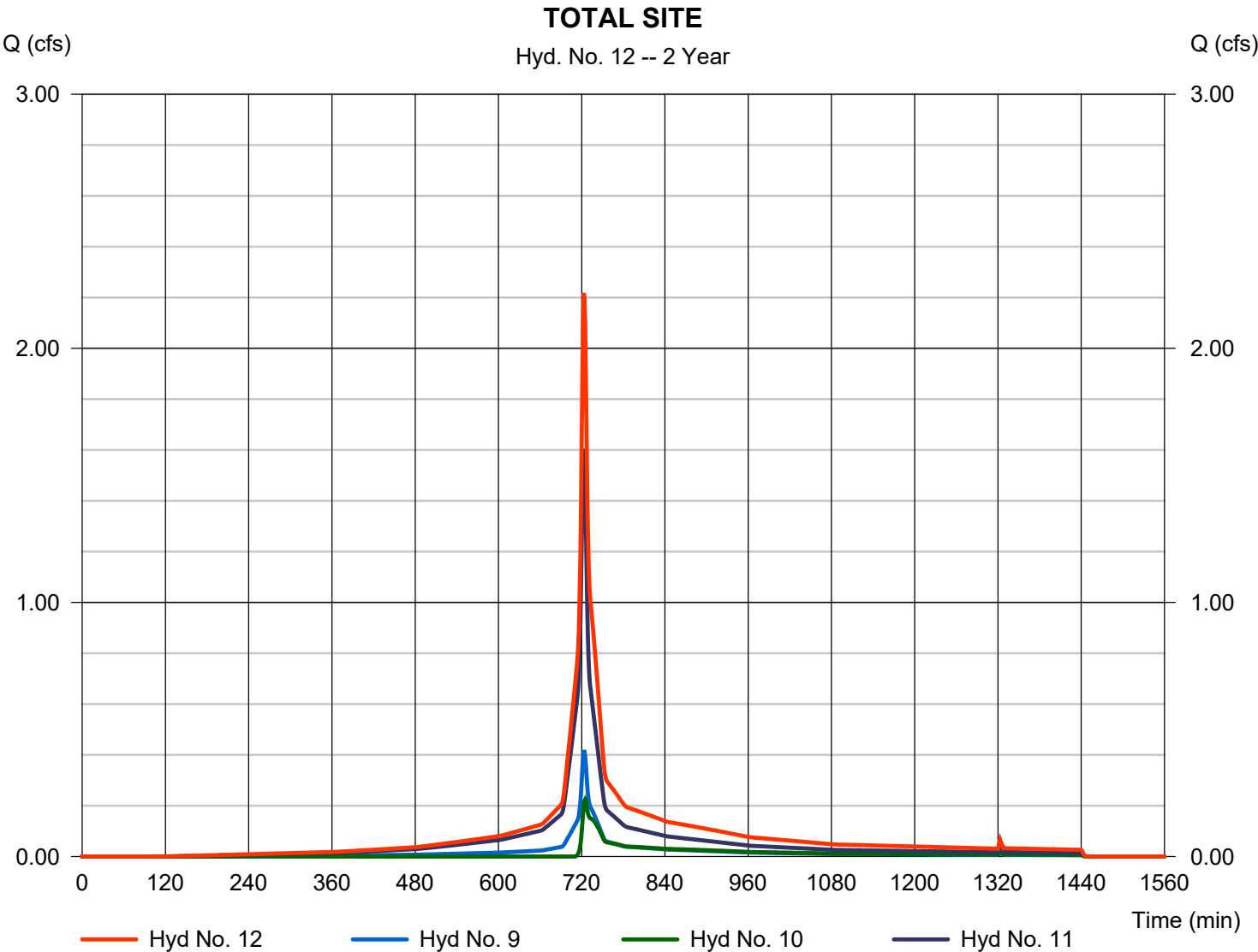
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 2.217 cfs
Storm frequency	= 2 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 7,583 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.012	1	723	6,447	-----	-----	-----	TO END OF PRENTISS
2	SCS Runoff	0.046	1	723	156	-----	-----	-----	LAWN- MIDDLE
3	SCS Runoff	0.023	1	723	78	-----	-----	-----	LAWN LOWER
4	SCS Runoff	0.185	1	724	664	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.447	1	723	1,464	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.333	1	724	1,129	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.077	1	723	259	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.123	1	724	443	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.624	1	723	2,128	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.530	1	724	1,831	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	2.081	1	723	6,680	1, 2, 3,	-----	-----	TO RIVER- CENTER
12	Combine	3.220	1	723	10,639	9, 10, 11	-----	-----	TOTAL SITE
									271 of 350
Existing H-H-OLD.gpw					Return Period: 5 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

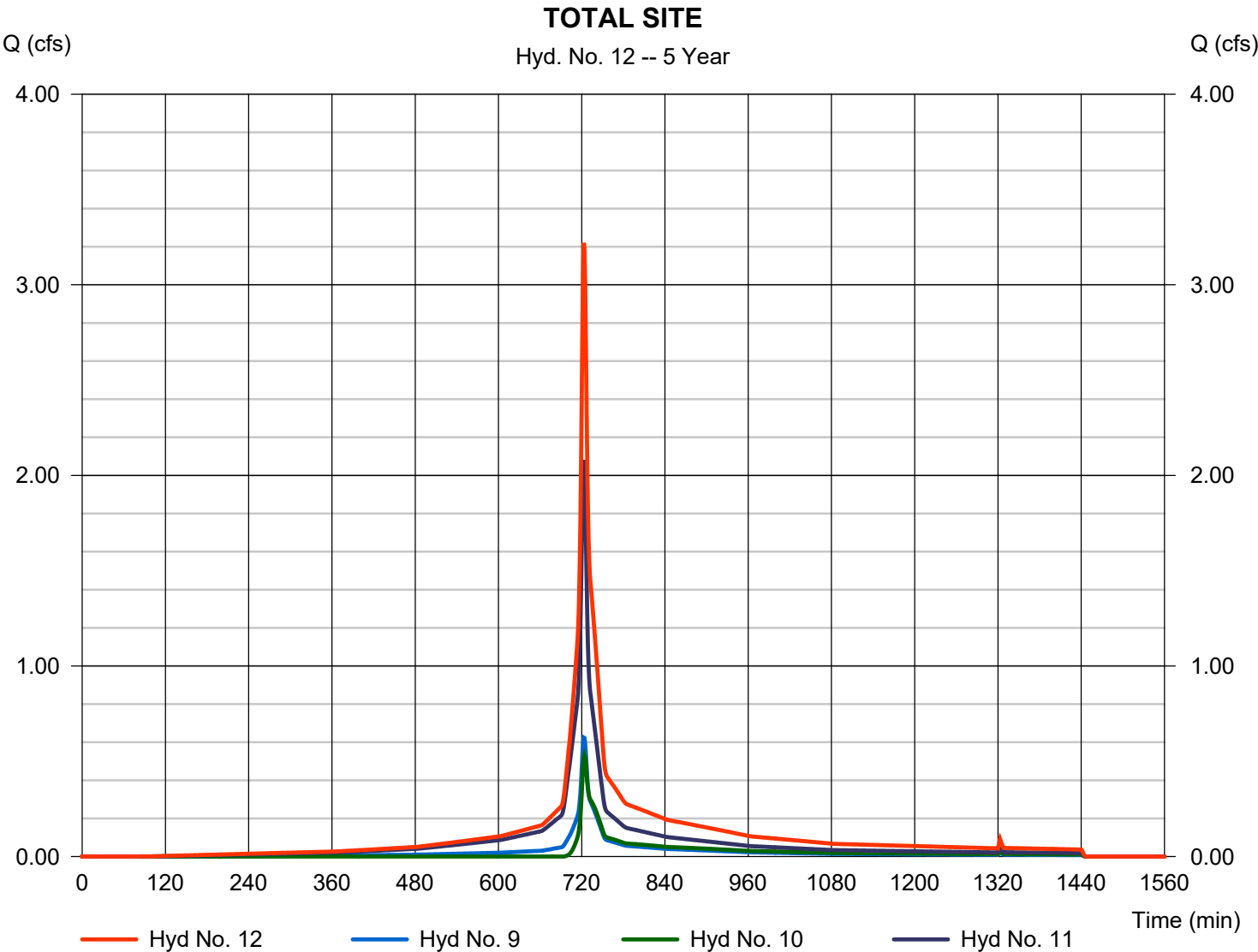
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 3.220 cfs
Storm frequency	= 5 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 10,639 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.412	1	723	7,802	-----	-----	-----	TO END OF PRENTISS
2	SCS Runoff	0.077	1	723	238	-----	-----	-----	LAWN- MIDDLE
3	SCS Runoff	0.039	1	723	119	-----	-----	-----	LAWN LOWER
4	SCS Runoff	0.313	1	724	1,014	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.535	1	723	1,762	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.537	1	724	1,688	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.129	1	723	396	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.208	1	724	676	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.839	1	723	2,776	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.866	1	724	2,761	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	2.528	1	723	8,158	1, 2, 3,	-----	-----	TO RIVER- CENTER
12	Combine	4.225	1	723	13,695	9, 10, 11	-----	-----	TOTAL SITE
									273 of 350
Existing H-H-OLD.gpw					Return Period: 10 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

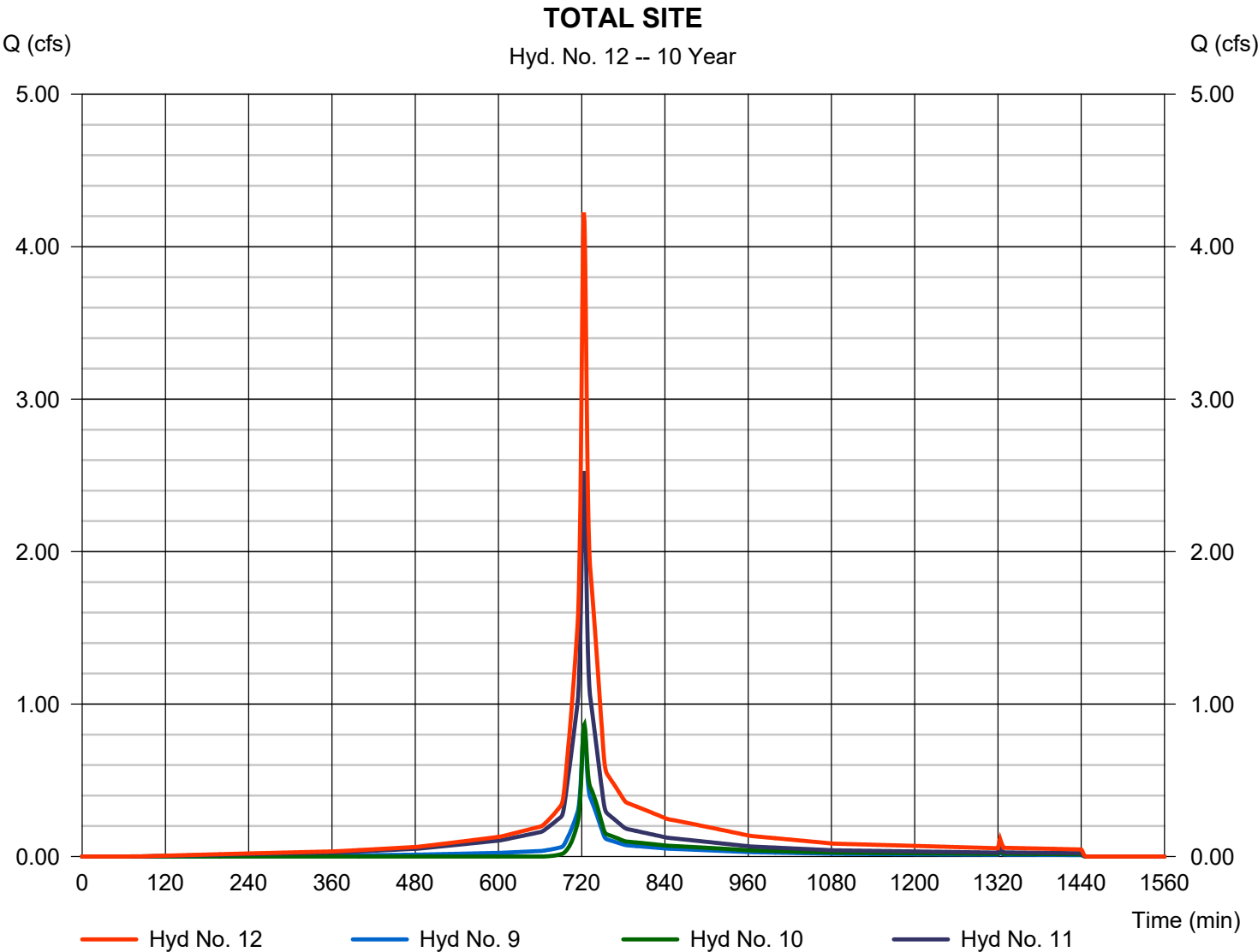
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 4.225 cfs
Storm frequency	= 10 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 13,695 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.061	1	723	10,009	-----	-----	-----	TO END OF PRENTISS
2	SCS Runoff	0.137	1	722	392	-----	-----	-----	LAWN- MIDDLE
3	SCS Runoff	0.068	1	722	196	-----	-----	-----	LAWN LOWER
4	SCS Runoff	0.551	1	724	1,672	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.677	1	723	2,249	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.910	1	724	2,726	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.228	1	722	653	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.367	1	724	1,115	-----	-----	-----	TO MILL BROOK EAST
9	Combine	1.221	1	723	3,921	4, 5,	-----	-----	WEST TO RIVER
10	Combine	1.490	1	723	4,494	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	3.263	1	723	10,597	1, 2, 3,	-----	-----	TO RIVER- CENTER
12	Combine	5.974	1	723	19,011	9, 10, 11	-----	-----	TOTAL SITE
									275 of 350
Existing H-H-OLD.gpw					Return Period: 25 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

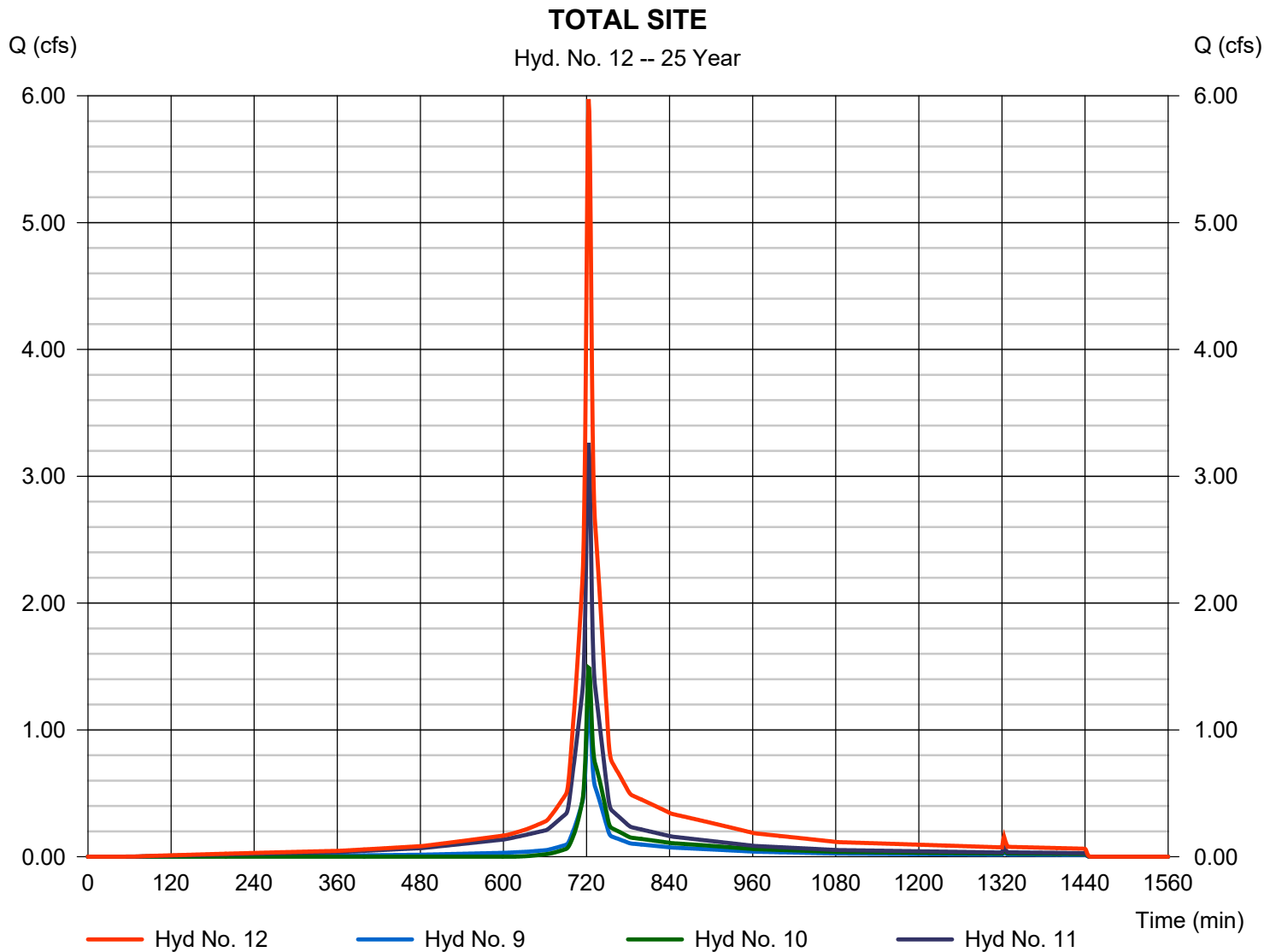
Thursday, 08 / 27 / 2020

Hyd. No. 12

TOTAL SITE

Hydrograph type = Combine
 Storm frequency = 25 yrs
 Time interval = 1 min
 Inflow hyds. = 9, 10, 11

Peak discharge = 5.974 cfs
 Time to peak = 723 min
 Hyd. volume = 19,011 cuft
 Contrib. drain. area = 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.660	1	723	12,055	-----	-----	-----	TO END OF PRENTISS
2	SCS Runoff	0.198	1	722	552	-----	-----	-----	LAWN- MIDDLE
3	SCS Runoff	0.099	1	722	276	-----	-----	-----	LAWN LOWER
4	SCS Runoff	0.794	1	724	2,354	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.808	1	723	2,700	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.288	1	724	3,791	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.330	1	722	920	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.529	1	724	1,569	-----	-----	-----	TO MILL BROOK EAST
9	Combine	1.599	1	723	5,054	4, 5,	-----	-----	WEST TO RIVER
10	Combine	2.135	1	723	6,280	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	3.951	1	723	12,883	1, 2, 3,	-----	-----	TO RIVER- CENTER
12	Combine	7.685	1	723	24,216	9, 10, 11	-----	-----	TOTAL SITE
									277 of 350
Existing H-H-OLD.gpw					Return Period: 50 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

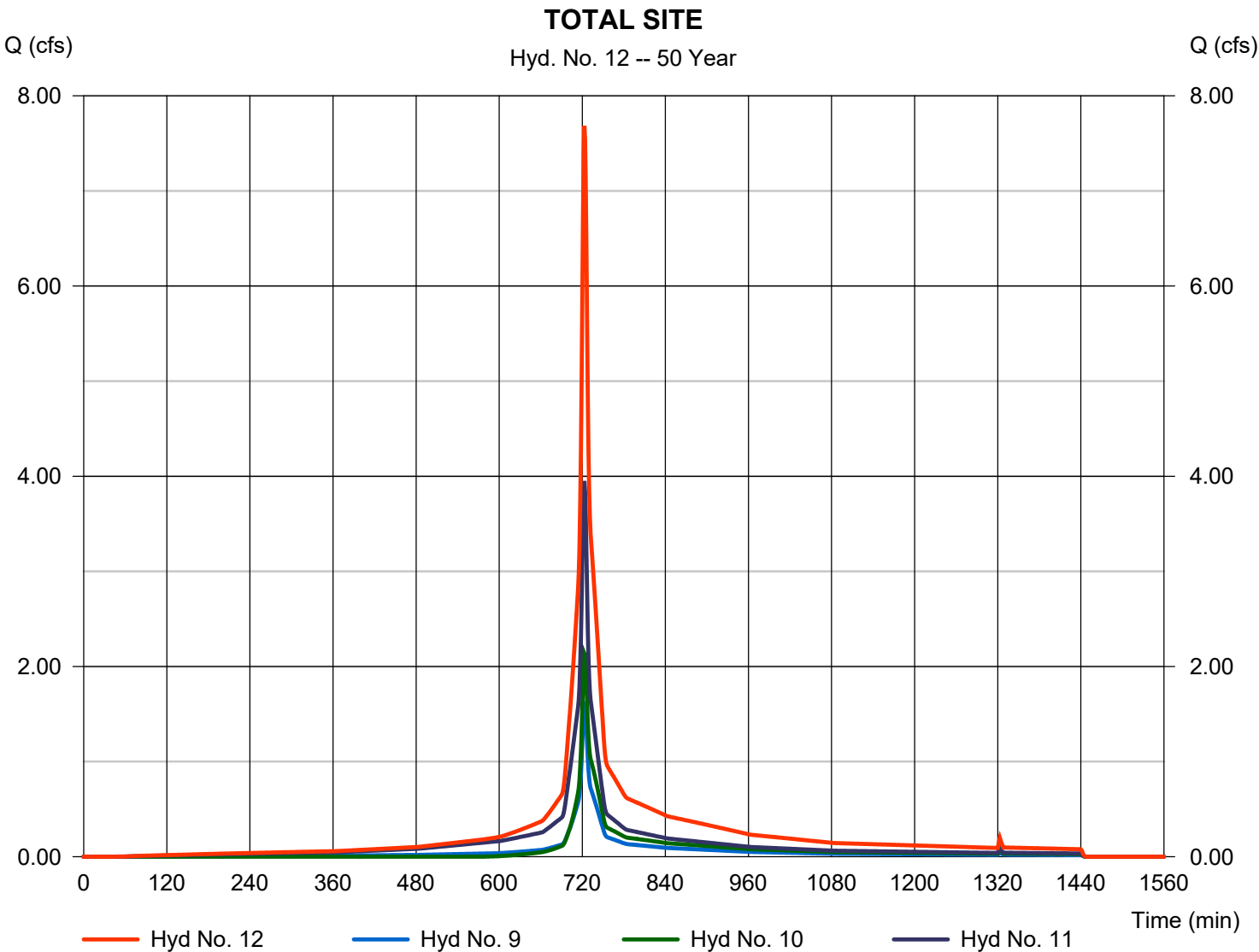
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 7.685 cfs
Storm frequency	= 50 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 24,216 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.379	1	723	14,520	-----	-----	-----	TO END OF PRENTISS
2	SCS Runoff	0.277	1	722	760	-----	-----	-----	LAWN- MIDDLE
3	SCS Runoff	0.139	1	722	380	-----	-----	-----	LAWN LOWER
4	SCS Runoff	1.108	1	723	3,242	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.966	1	723	3,242	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.775	1	723	5,167	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.462	1	722	1,266	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.739	1	723	2,161	-----	-----	-----	TO MILL BROOK EAST
9	Combine	2.074	1	723	6,484	4, 5,	-----	-----	WEST TO RIVER
10	Combine	2.963	1	723	8,595	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	4.784	1	723	15,660	1, 2, 3,	-----	-----	TO RIVER- CENTER
12	Combine	9.821	1	723	30,739	9, 10, 11	-----	-----	TOTAL SITE
									279 of 350
Existing H-H-OLD.gpw					Return Period: 100 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

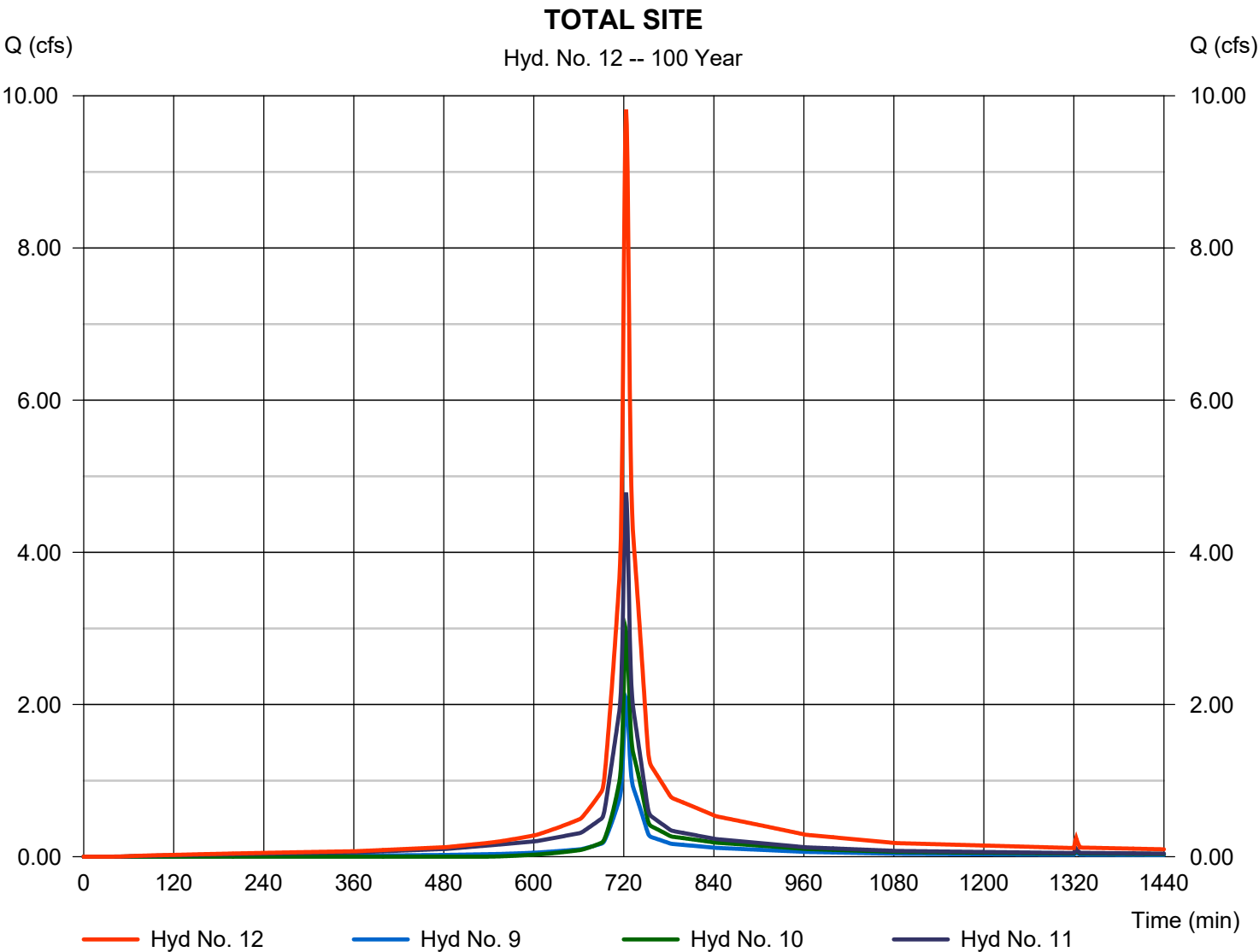
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 9.821 cfs
Storm frequency	= 100 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 30,739 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	-----
2	69.8703	13.1000	0.8658	-----
3	0.0000	0.0000	0.0000	-----
5	79.2597	14.6000	0.8369	-----
10	88.2351	15.5000	0.8279	-----
25	102.6072	16.5000	0.8217	-----
50	114.8193	17.2000	0.8199	-----
100	127.1596	17.8000	0.8186	-----

File name: SampleFHA.idf

$$\text{Intensity} = B / (T_c + D)^E$$

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

Tc = time in minutes. Values may exceed 60.

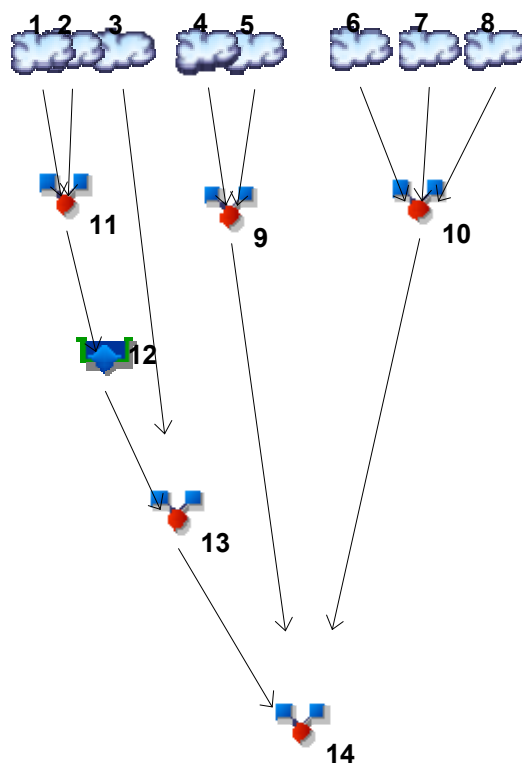
Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.58	3.09	0.00	3.90	4.65	5.87	7.00	8.36
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12



Legend

Hyd.	Origin	Description
1	SCS Runoff	TO FOREBAY
2	SCS Runoff	TO BIORETENTION DIRECT
3	SCS Runoff	TO END OF SWALE
4	SCS Runoff	TO MILL BROOK WEST
5	SCS Runoff	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	TO MILL BROOK CENTER
7	SCS Runoff	TO MILL BROOK - RESTORATION
8	SCS Runoff	TO MILL BROOK EAST
9	Combine	WEST TO RIVER
10	Combine	EAST TO RIVER
11	Combine	TO POND
12	Reservoir	OUT OF BR
13	Combine	TO SWALE OUTLET
14	Combine	TOTAL TO RIVER

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	-----	1.293	1.577	-----	2.024	2.435	3.100	3.714	4.450	TO FOREBAY
2	SCS Runoff	-----	0.005	0.018	-----	0.046	0.077	0.137	0.198	0.277	TO BIORETENTION DIRECT
3	SCS Runoff	-----	0.003	0.009	-----	0.023	0.039	0.068	0.099	0.139	TO END OF SWALE
4	SCS Runoff	-----	0.023	0.072	-----	0.185	0.313	0.551	0.794	1.108	TO MILL BROOK WEST
5	SCS Runoff	-----	0.293	0.353	-----	0.447	0.535	0.677	0.808	0.966	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	-----	0.057	0.147	-----	0.333	0.537	0.910	1.288	1.775	TO MILL BROOK CENTER
7	SCS Runoff	-----	0.009	0.030	-----	0.077	0.129	0.228	0.330	0.462	TO MILL BROOK - RESTORATION
8	SCS Runoff	-----	0.016	0.048	-----	0.123	0.208	0.367	0.529	0.739	TO MILL BROOK EAST
9	Combine	4, 5,	0.299	0.412	-----	0.624	0.839	1.221	1.599	2.074	WEST TO RIVER
10	Combine	6, 7, 8,	0.079	0.224	-----	0.530	0.866	1.490	2.135	2.963	EAST TO RIVER
11	Combine	1, 2,	1.296	1.594	-----	2.070	2.512	3.235	3.908	4.720	TO POND
12	Reservoir	11	1.277	1.570	-----	2.037	2.472	3.183	3.844	4.642	OUT OF BR
13	Combine	3, 12	1.279	1.579	-----	2.059	2.508	3.245	3.933	4.766	TO SWALE OUTLET
14	Combine	9, 10, 13	1.637	2.210	-----	3.211	4.210	5.943	7.632	9.755	TOTAL TO RIVER

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.293	1	723	3,961	-----	-----	-----	TO FOREBAY
2	SCS Runoff	0.005	1	735	45	-----	-----	-----	TO BIORETENTION DIRECT
3	SCS Runoff	0.003	1	735	22	-----	-----	-----	TO END OF SWALE
4	SCS Runoff	0.023	1	737	192	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.293	1	723	938	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.057	1	726	355	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.009	1	735	75	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.016	1	737	128	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.299	1	723	1,130	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.079	1	727	557	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	1.296	1	723	4,006	1, 2,	-----	-----	TO POND
12	Reservoir	1.277	1	724	4,002	11	64.32	602	OUT OF BR
13	Combine	1.279	1	724	4,025	3, 12	-----	-----	TO SWALE OUTLET
14	Combine	1.637	1	724	5,712	9, 10, 13	-----	-----	TOTAL TO RIVER
Proposed H-H.gpw					Return Period: 1 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

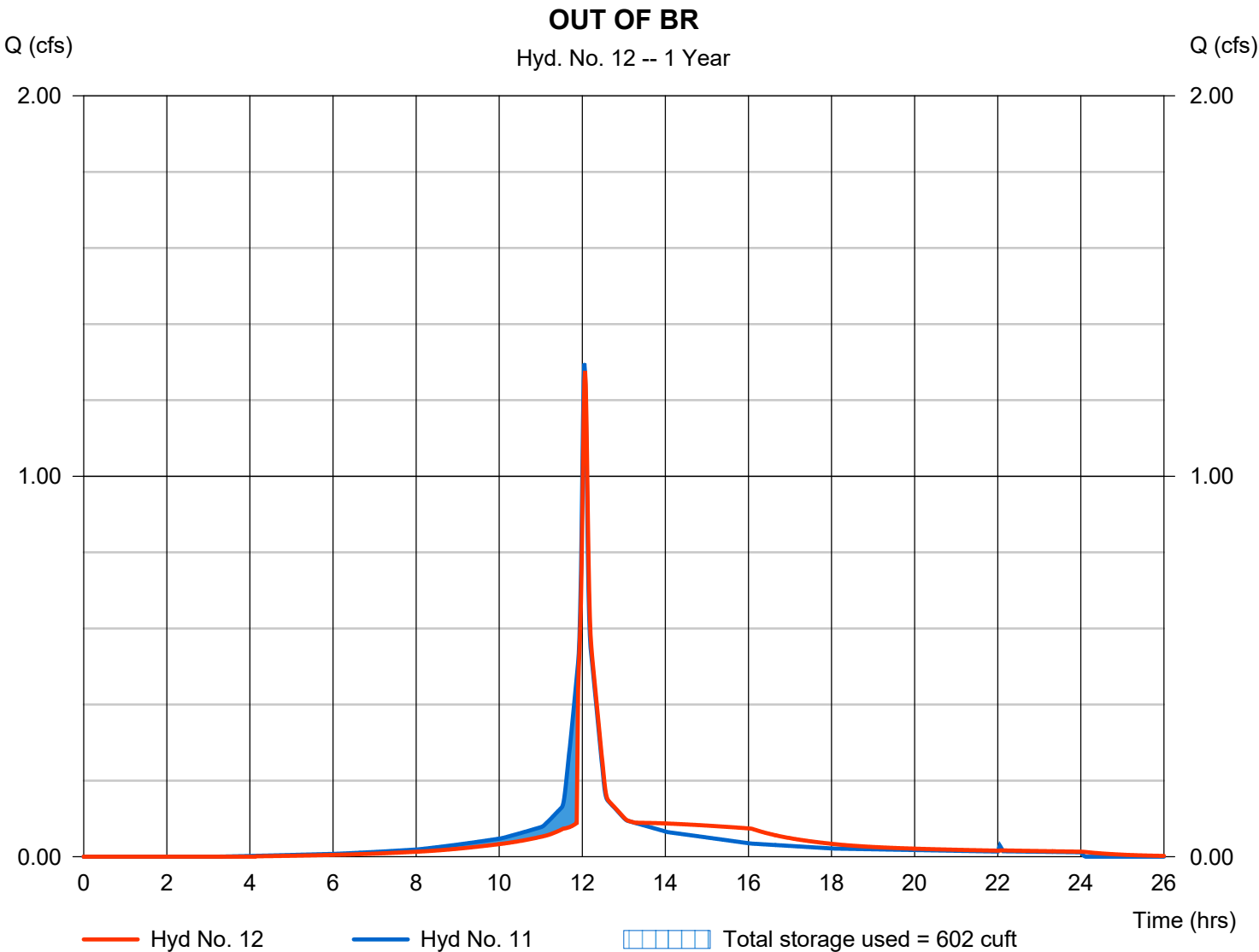
Thursday, 08 / 27 / 2020

Hyd. No. 12

OUT OF BR

Hydrograph type	= Reservoir	Peak discharge	= 1.277 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 4,002 cuft
Inflow hyd. No.	= 11 - TO POND	Max. Elevation	= 64.32 ft
Reservoir name	= BIORET	Max. Storage	= 602 cuft

Storage Indication method used. Outflow includes exfiltration.



Pond No. 1 - BIORET

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	61.75	n/a	0	0
1.00	62.75	n/a	280	280
2.50	64.25	n/a	263	543
3.00	64.75	n/a	403	946
3.50	65.25	n/a	506	1,452
3.75	65.50	n/a	253	1,705
4.25	66.00	n/a	506	2,211

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.00	5.00	20.00	0.00
Crest El. (ft)	= 64.75	65.25	65.50	0.00
Weir Coeff.	= 3.33	3.33	2.60	3.33
Weir Type	= Rect	Rect	Broad	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 2.000 (by Wet area)			
TW Elev. (ft)	= 64.20			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	61.75	---	---	---	---	0.00	0.00	0.00	---	0.000	---	0.000
1.00	280	62.75	---	---	---	---	0.00	0.00	0.00	---	0.032	---	0.074
2.50	543	64.25	---	---	---	---	0.00	0.00	0.00	---	0.038	---	0.089
3.00	946	64.75	---	---	---	---	0.00	0.00	0.00	---	0.000	---	8.760
3.50	1,452	65.25	---	---	---	---	0.00	0.00	0.00	---	0.000	---	20.02
3.75	1,705	65.50	---	---	---	---	0.00	0.00	0.00	---	0.000	---	93.56
4.25	2,211	66.00	---	---	---	---	0.00	0.00	0.00	---	0.000	---	302.10

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

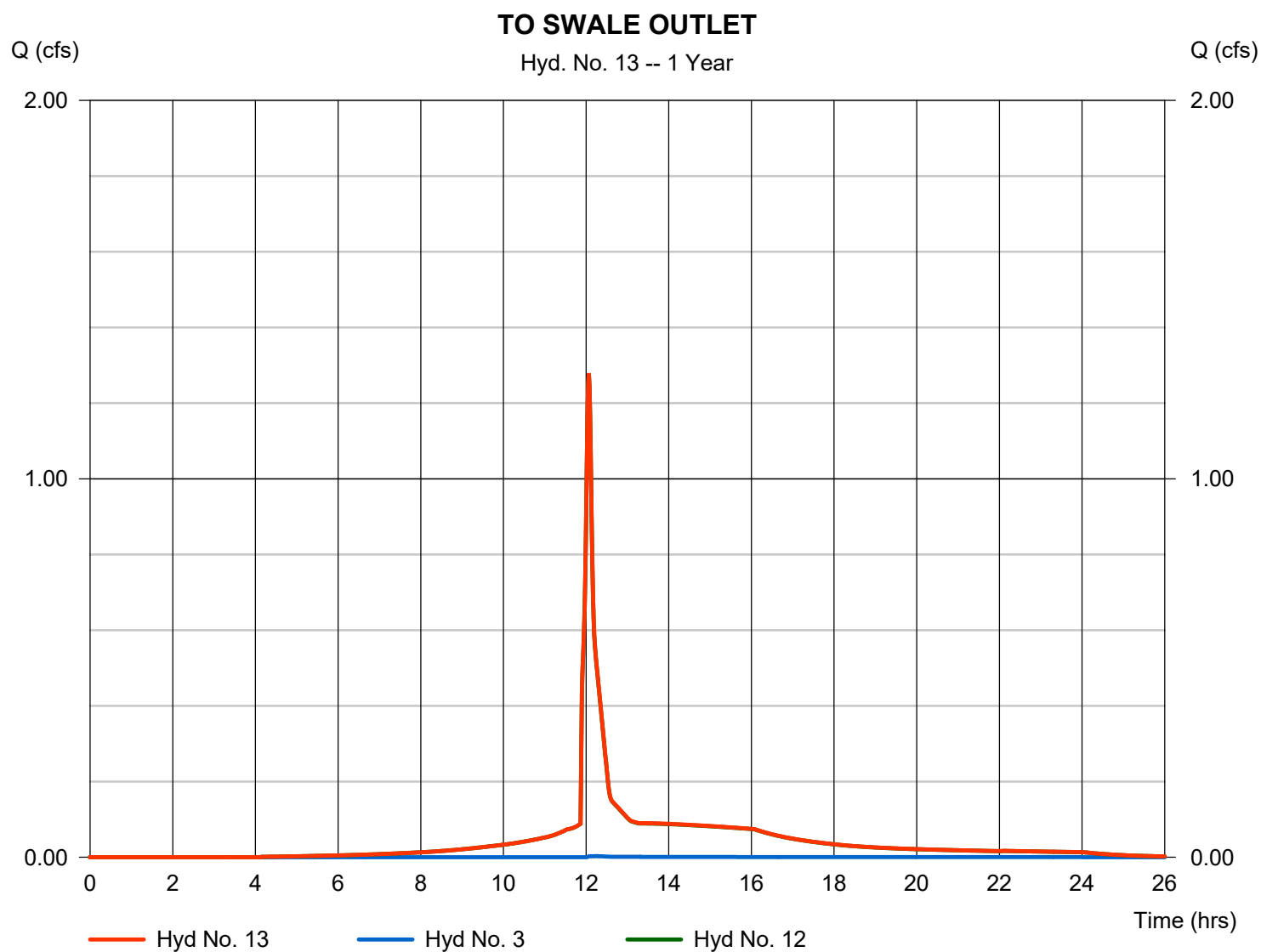
Thursday, 08 / 27 / 2020

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type = Combine
 Storm frequency = 1 yrs
 Time interval = 1 min
 Inflow hyds. = 3, 12

Peak discharge = 1.279 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 4,025 cuft
 Contrib. drain. area = 0.030 ac



Hydrograph Report

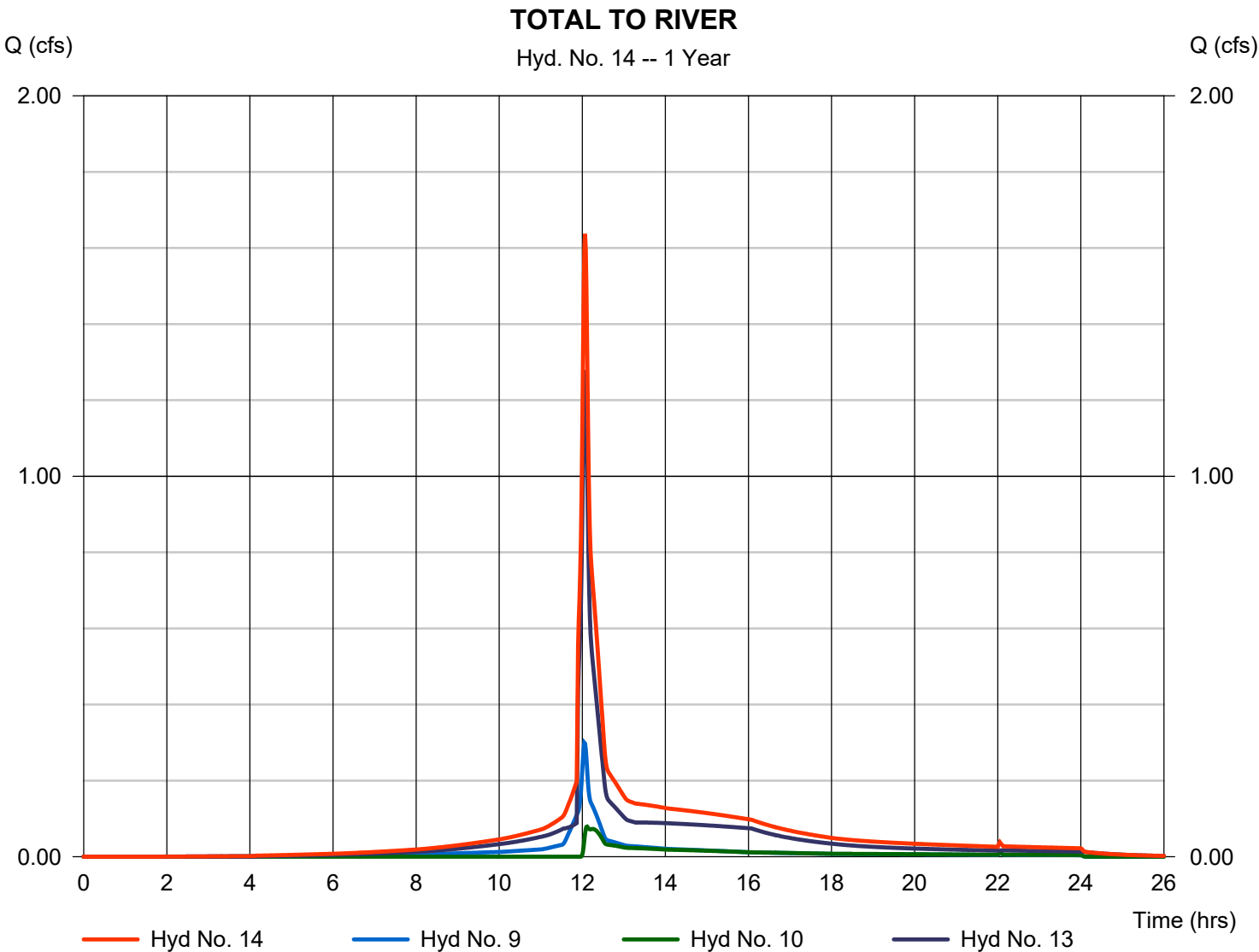
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Thursday, 08 / 27 / 2020

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 1.637 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,712 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.577	1	723	4,889	-----	-----	-----	TO FOREBAY
2	SCS Runoff	0.018	1	724	82	-----	-----	-----	TO BIORETENTION DIRECT
3	SCS Runoff	0.009	1	724	41	-----	-----	-----	TO END OF SWALE
4	SCS Runoff	0.072	1	725	348	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.353	1	723	1,141	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.147	1	725	616	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.030	1	724	136	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.048	1	725	232	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.412	1	723	1,490	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.224	1	725	984	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	1.594	1	723	4,970	1, 2,	-----	-----	TO POND
12	Reservoir	1.570	1	724	4,967	11	64.34	615	OUT OF BR
13	Combine	1.579	1	724	5,007	3, 12	-----	-----	TO SWALE OUTLET
14	Combine	2.210	1	724	7,481	9, 10, 13	-----	-----	TOTAL TO RIVER
									290 of 350
Proposed H-H.gpw					Return Period: 2 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

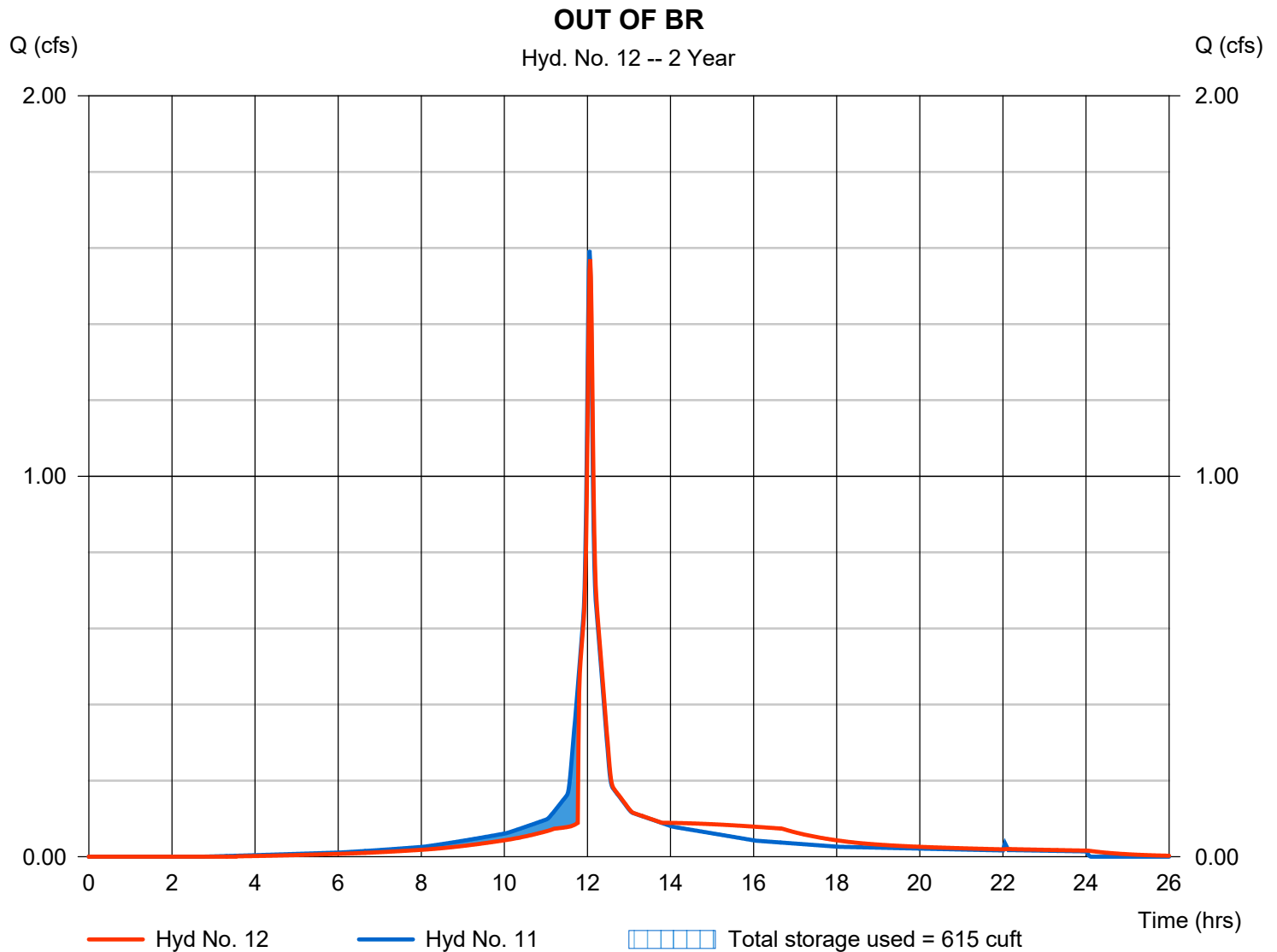
Hyd. No. 12

OUT OF BR

Hydrograph type = Reservoir
 Storm frequency = 2 yrs
 Time interval = 1 min
 Inflow hyd. No. = 11 - TO POND
 Reservoir name = BIORET

Peak discharge = 1.570 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 4,967 cuft
 Max. Elevation = 64.34 ft
 Max. Storage = 615 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

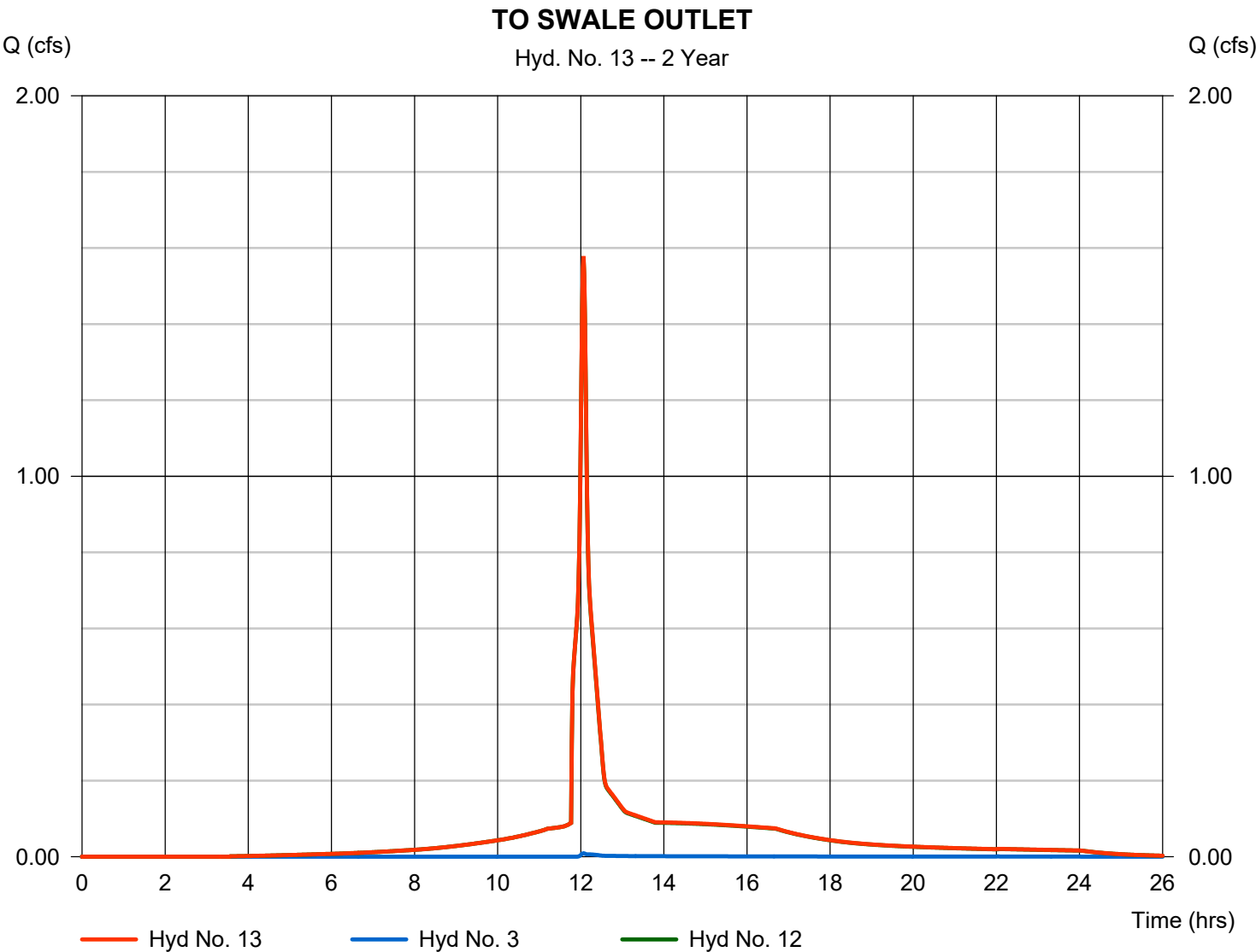
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Thursday, 08 / 27 / 2020

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	= Combine	Peak discharge	= 1.579 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,007 cuft
Inflow hyds.	= 3, 12	Contrib. drain. area	= 0.030 ac



Hydrograph Report

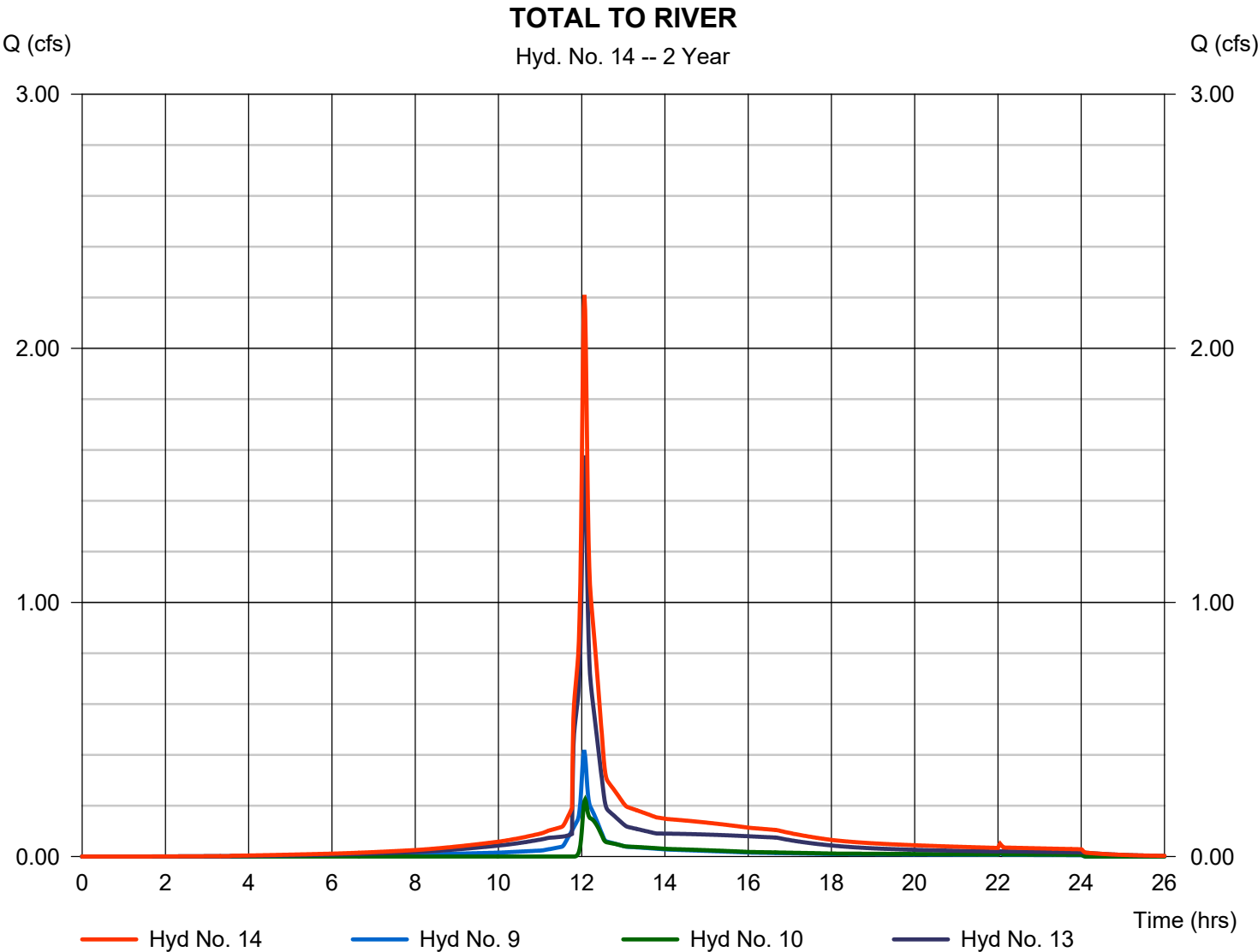
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 2.210 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 7,481 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.024	1	723	6,370	-----	-----	-----	TO FOREBAY
2	SCS Runoff	0.046	1	723	156	-----	-----	-----	TO BIORETENTION DIRECT
3	SCS Runoff	0.023	1	723	78	-----	-----	-----	TO END OF SWALE
4	SCS Runoff	0.185	1	724	664	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.447	1	723	1,464	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.333	1	724	1,129	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.077	1	723	259	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.123	1	724	443	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.624	1	723	2,128	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.530	1	724	1,831	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	2.070	1	723	6,526	1, 2,	-----	-----	TO POND
12	Reservoir	2.037	1	724	6,522	11	64.37	637	OUT OF BR
13	Combine	2.059	1	724	6,600	3, 12	-----	-----	TO SWALE OUTLET
14	Combine	3.211	1	724	10,559	9, 10, 13	-----	-----	TOTAL TO RIVER
Proposed H-H.gpw					Return Period: 5 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

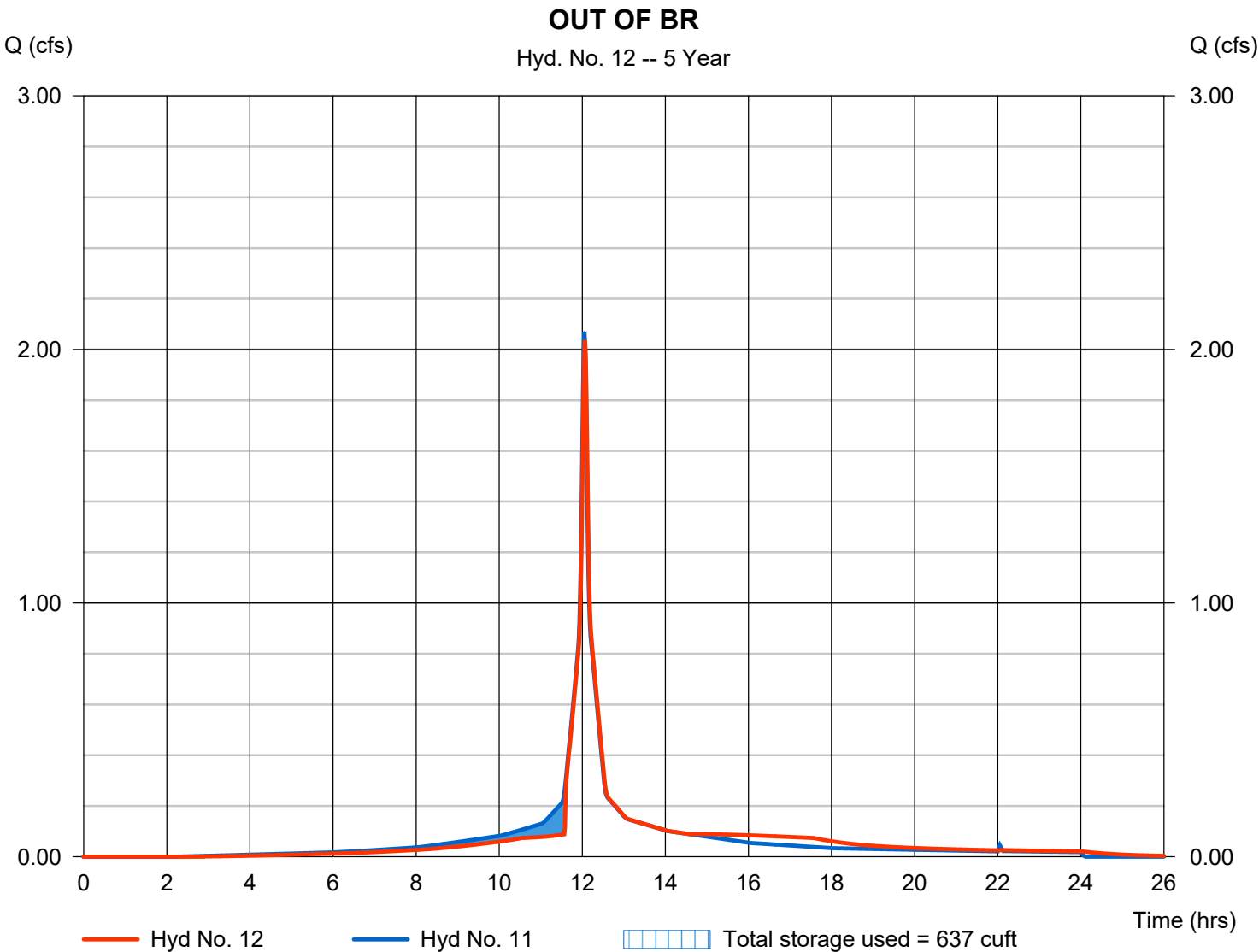
Thursday, 08 / 27 / 2020

Hyd. No. 12

OUT OF BR

Hydrograph type	= Reservoir	Peak discharge	= 2.037 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 6,522 cuft
Inflow hyd. No.	= 11 - TO POND	Max. Elevation	= 64.37 ft
Reservoir name	= BIORET	Max. Storage	= 637 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

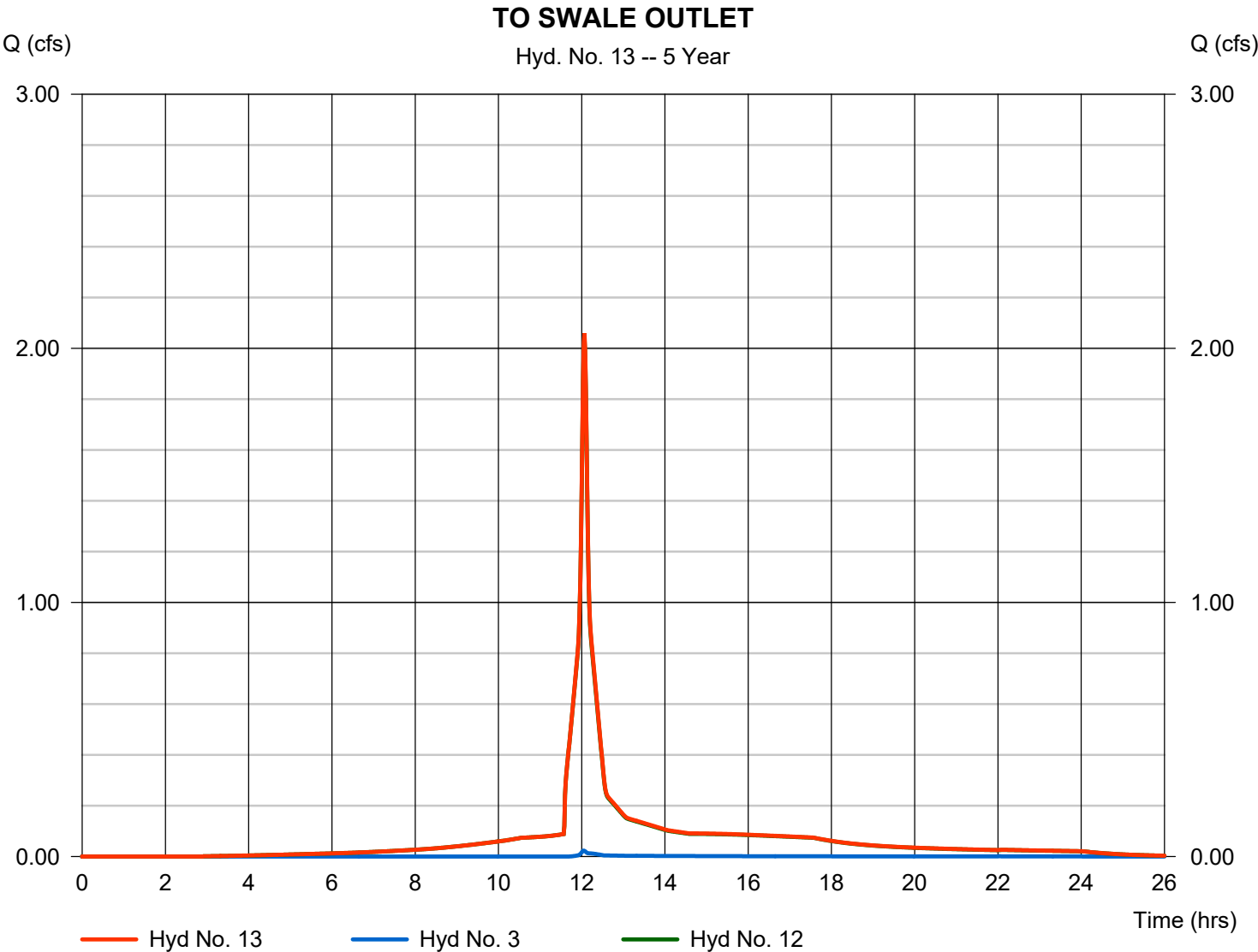
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	= Combine	Peak discharge	= 2.059 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 6,600 cuft
Inflow hyds.	= 3, 12	Contrib. drain. area	= 0.030 ac



Hydrograph Report

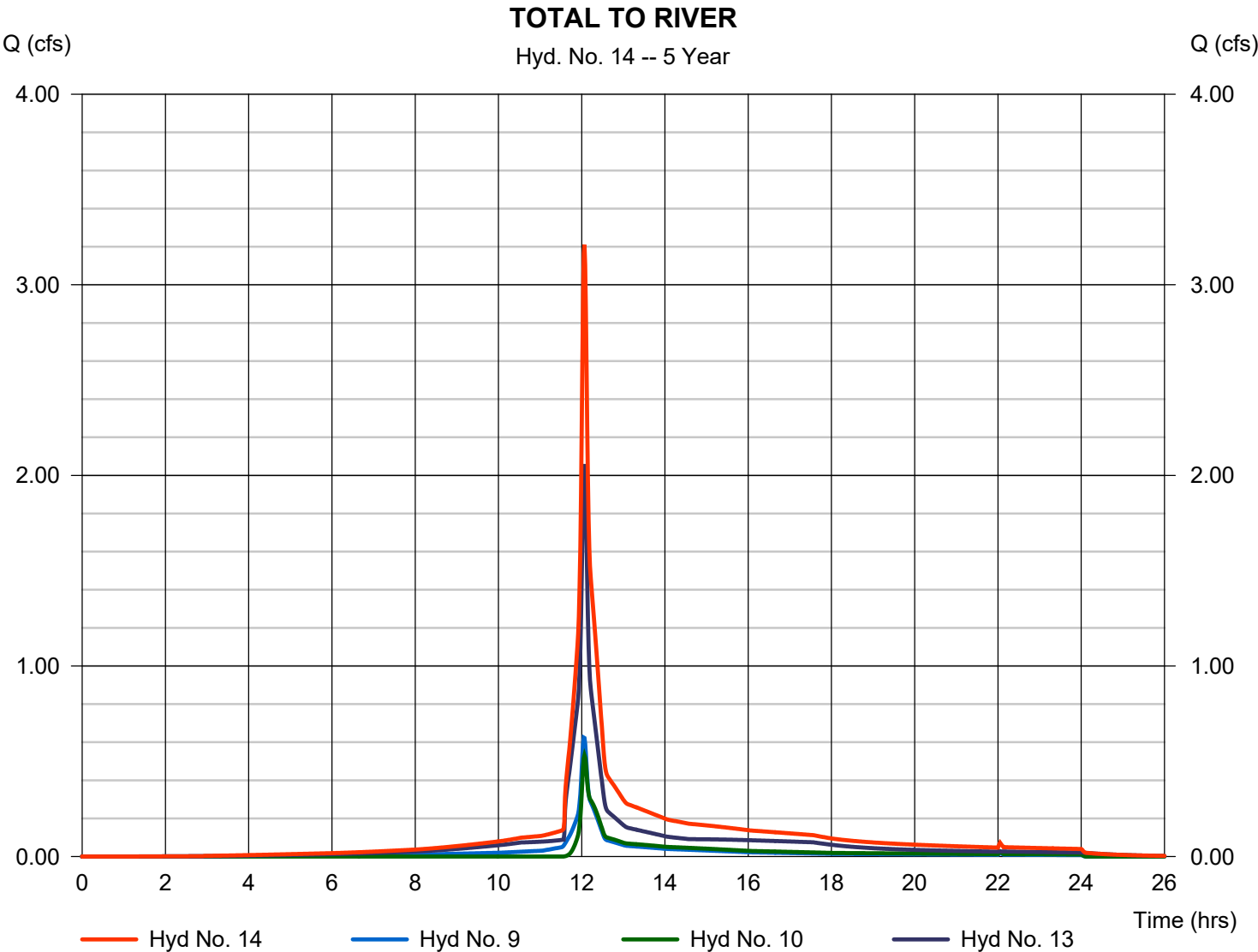
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 3.211 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 10,559 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.435	1	723	7,747	-----	-----	-----	TO FOREBAY
2	SCS Runoff	0.077	1	723	238	-----	-----	-----	TO BIORETENTION DIRECT
3	SCS Runoff	0.039	1	723	119	-----	-----	-----	TO END OF SWALE
4	SCS Runoff	0.313	1	724	1,014	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.535	1	723	1,762	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.537	1	724	1,688	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.129	1	723	396	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.208	1	724	676	-----	-----	-----	TO MILL BROOK EAST
9	Combine	0.839	1	723	2,776	4, 5,	-----	-----	WEST TO RIVER
10	Combine	0.866	1	724	2,761	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	2.512	1	723	7,985	1, 2,	-----	-----	TO POND
12	Reservoir	2.472	1	724	7,981	11	64.39	657	OUT OF BR
13	Combine	2.508	1	724	8,100	3, 12	-----	-----	TO SWALE OUTLET
14	Combine	4.210	1	724	13,637	9, 10, 13	-----	-----	TOTAL TO RIVER
Proposed H-H.gpw					Return Period: 10 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

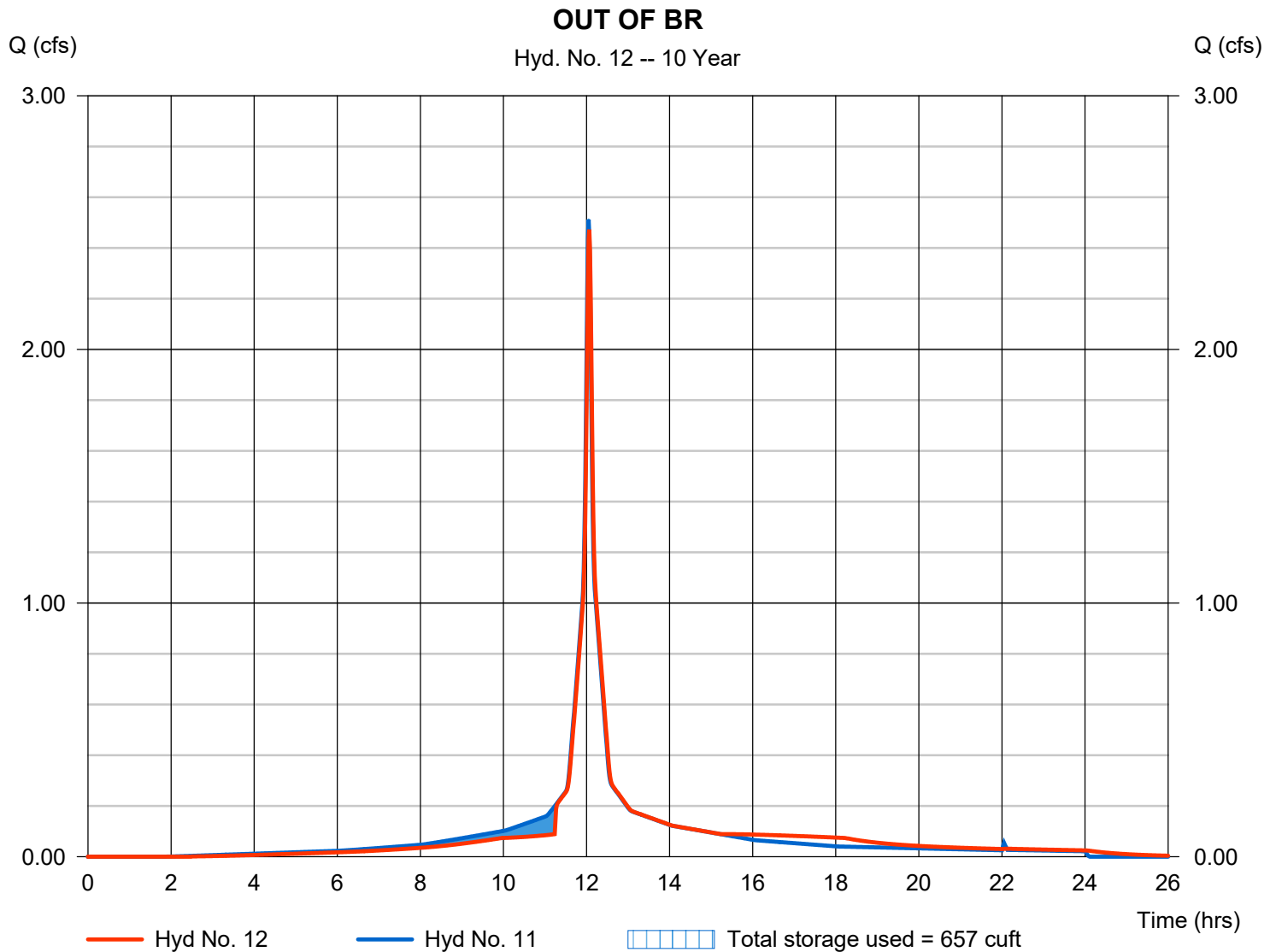
Hyd. No. 12

OUT OF BR

Hydrograph type = Reservoir
 Storm frequency = 10 yrs
 Time interval = 1 min
 Inflow hyd. No. = 11 - TO POND
 Reservoir name = BIORET

Peak discharge = 2.472 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 7,981 cuft
 Max. Elevation = 64.39 ft
 Max. Storage = 657 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

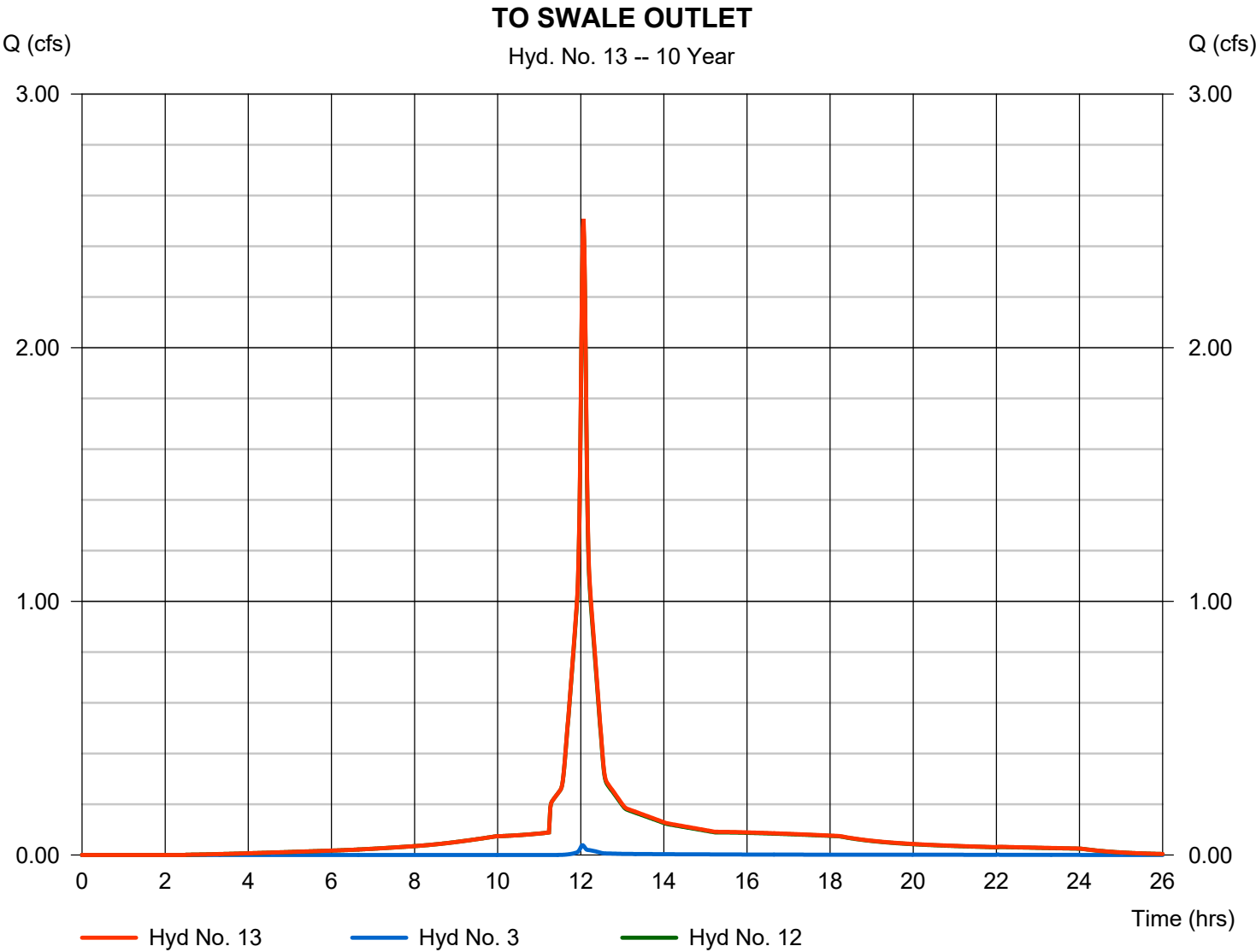
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	= Combine	Peak discharge	= 2.508 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 8,100 cuft
Inflow hyds.	= 3, 12	Contrib. drain. area	= 0.030 ac



Hydrograph Report

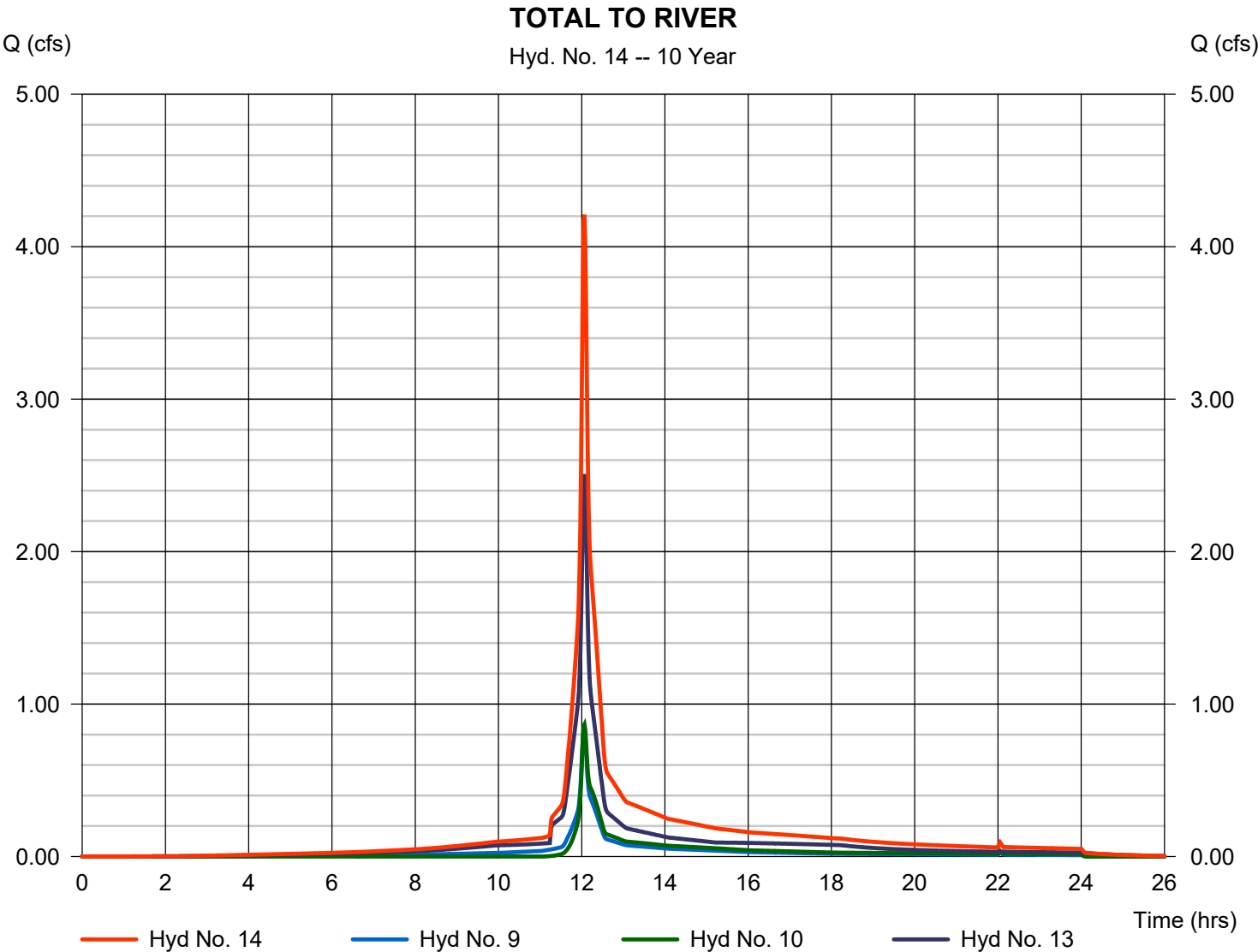
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 4.210 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 13,637 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.100	1	723	9,993	-----	-----	-----	TO FOREBAY
2	SCS Runoff	0.137	1	722	392	-----	-----	-----	TO BIORETENTION DIRECT
3	SCS Runoff	0.068	1	722	196	-----	-----	-----	TO END OF SWALE
4	SCS Runoff	0.551	1	724	1,672	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.677	1	723	2,249	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.910	1	724	2,726	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.228	1	722	653	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.367	1	724	1,115	-----	-----	-----	TO MILL BROOK EAST
9	Combine	1.221	1	723	3,921	4, 5,	-----	-----	WEST TO RIVER
10	Combine	1.490	1	723	4,494	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	3.235	1	723	10,385	1, 2,	-----	-----	TO POND
12	Reservoir	3.183	1	724	10,381	11	64.43	689	OUT OF BR
13	Combine	3.245	1	724	10,577	3, 12	-----	-----	TO SWALE OUTLET
14	Combine	5.943	1	724	18,992	9, 10, 13	-----	-----	TOTAL TO RIVER
									302 of 350
Proposed H-H.gpw					Return Period: 25 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

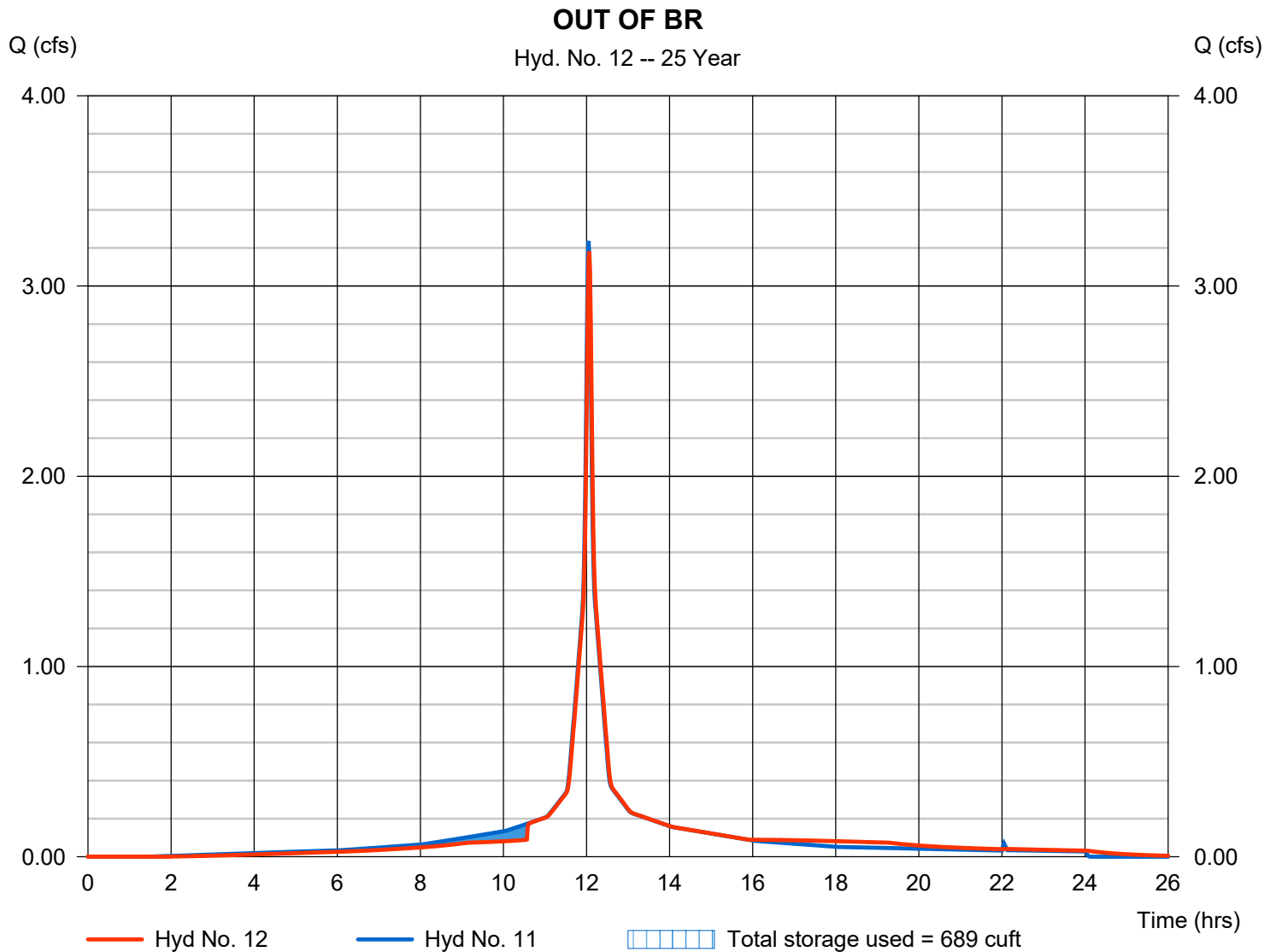
Hyd. No. 12

OUT OF BR

Hydrograph type = Reservoir
 Storm frequency = 25 yrs
 Time interval = 1 min
 Inflow hyd. No. = 11 - TO POND
 Reservoir name = BIORET

Peak discharge = 3.183 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 10,381 cuft
 Max. Elevation = 64.43 ft
 Max. Storage = 689 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

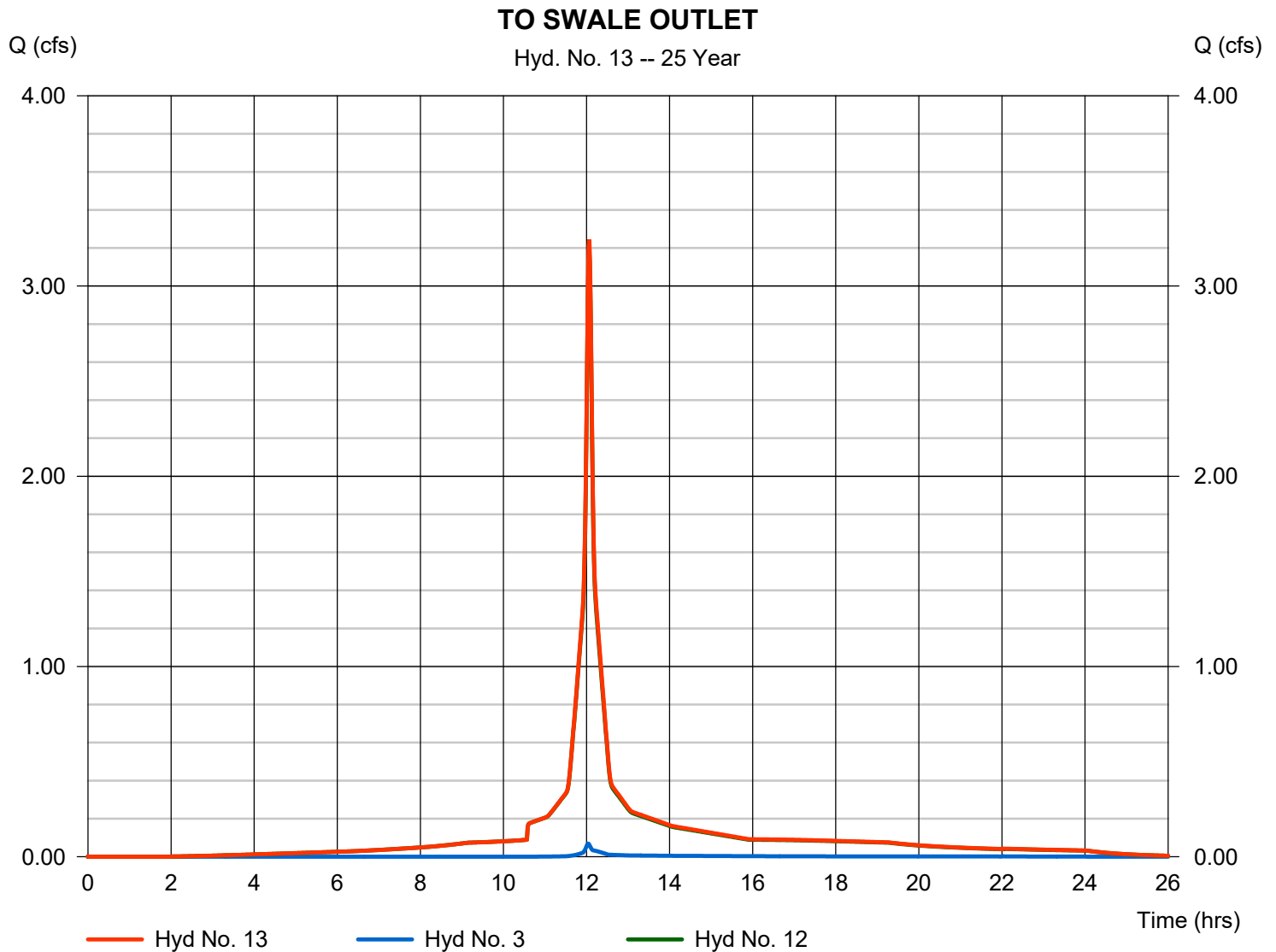
Thursday, 08 / 27 / 2020

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type = Combine
 Storm frequency = 25 yrs
 Time interval = 1 min
 Inflow hyds. = 3, 12

Peak discharge = 3.245 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 10,577 cuft
 Contrib. drain. area = 0.030 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

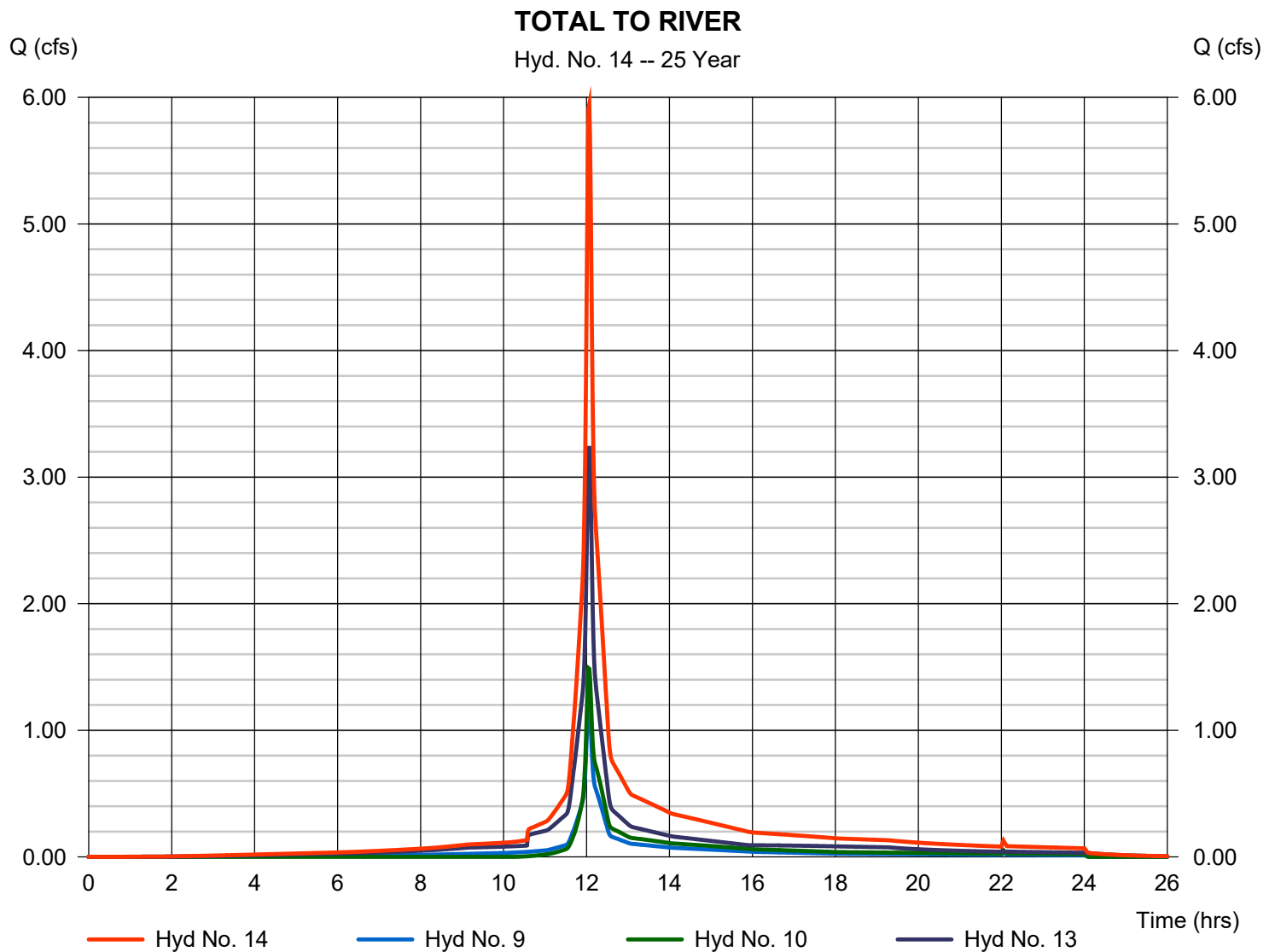
Thursday, 08 / 27 / 2020

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type = Combine
 Storm frequency = 25 yrs
 Time interval = 1 min
 Inflow hyds. = 9, 10, 13

Peak discharge = 5.943 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 18,992 cuft
 Contrib. drain. area = 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.714	1	723	12,077	-----	-----	-----	TO FOREBAY
2	SCS Runoff	0.198	1	722	552	-----	-----	-----	TO BIORETENTION DIRECT
3	SCS Runoff	0.099	1	722	276	-----	-----	-----	TO END OF SWALE
4	SCS Runoff	0.794	1	724	2,354	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.808	1	723	2,700	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.288	1	724	3,791	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.330	1	722	920	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.529	1	724	1,569	-----	-----	-----	TO MILL BROOK EAST
9	Combine	1.599	1	723	5,054	4, 5,	-----	-----	WEST TO RIVER
10	Combine	2.135	1	723	6,280	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	3.908	1	723	12,629	1, 2,	-----	-----	TO POND
12	Reservoir	3.844	1	724	12,625	11	64.47	720	OUT OF BR
13	Combine	3.933	1	724	12,901	3, 12	-----	-----	TO SWALE OUTLET
14	Combine	7.632	1	724	24,234	9, 10, 13	-----	-----	TOTAL TO RIVER
									306 of 350
Proposed H-H.gpw					Return Period: 50 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

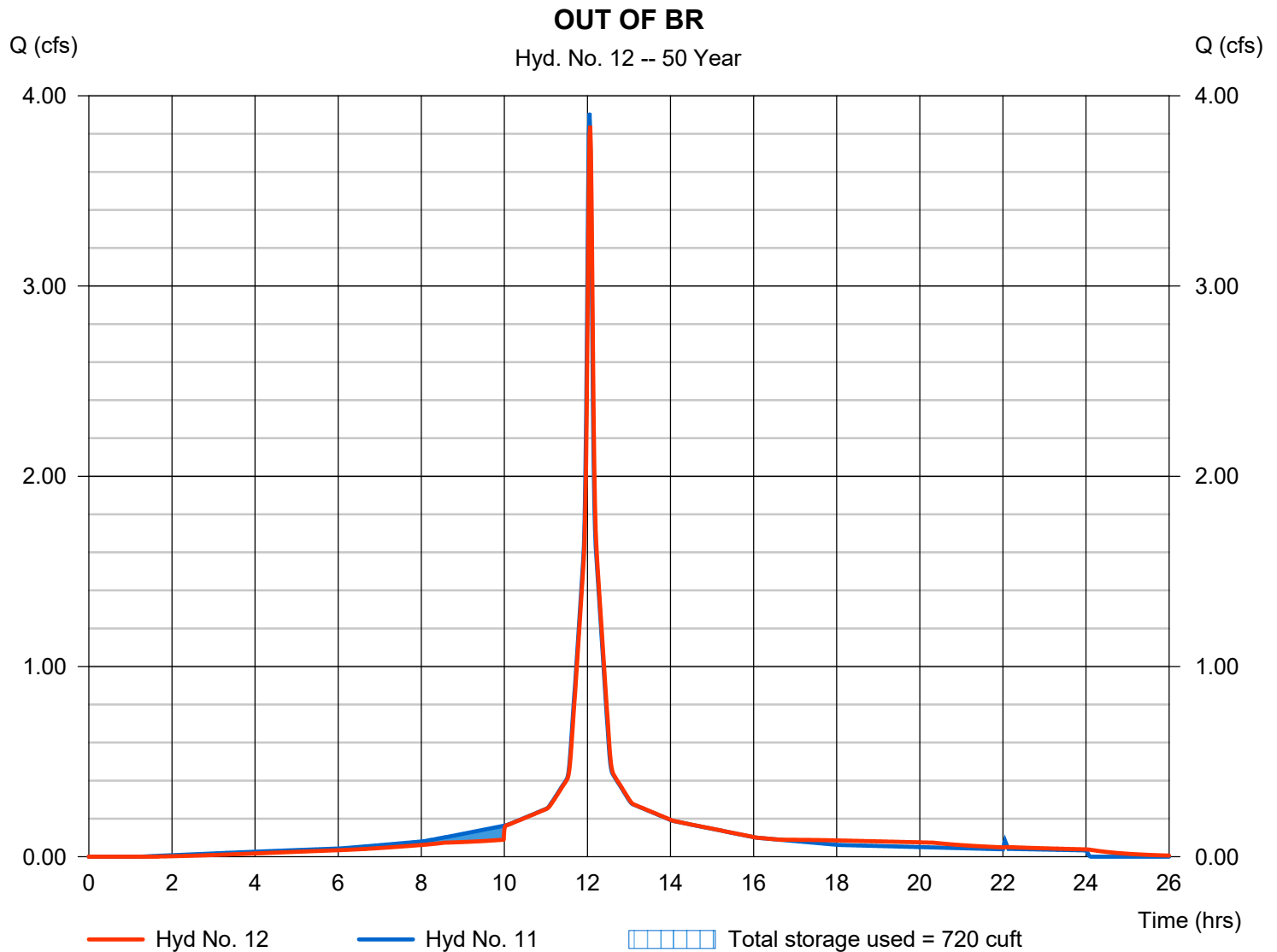
Thursday, 08 / 27 / 2020

Hyd. No. 12

OUT OF BR

Hydrograph type	= Reservoir	Peak discharge	= 3.844 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 12,625 cuft
Inflow hyd. No.	= 11 - TO POND	Max. Elevation	= 64.47 ft
Reservoir name	= BIORET	Max. Storage	= 720 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

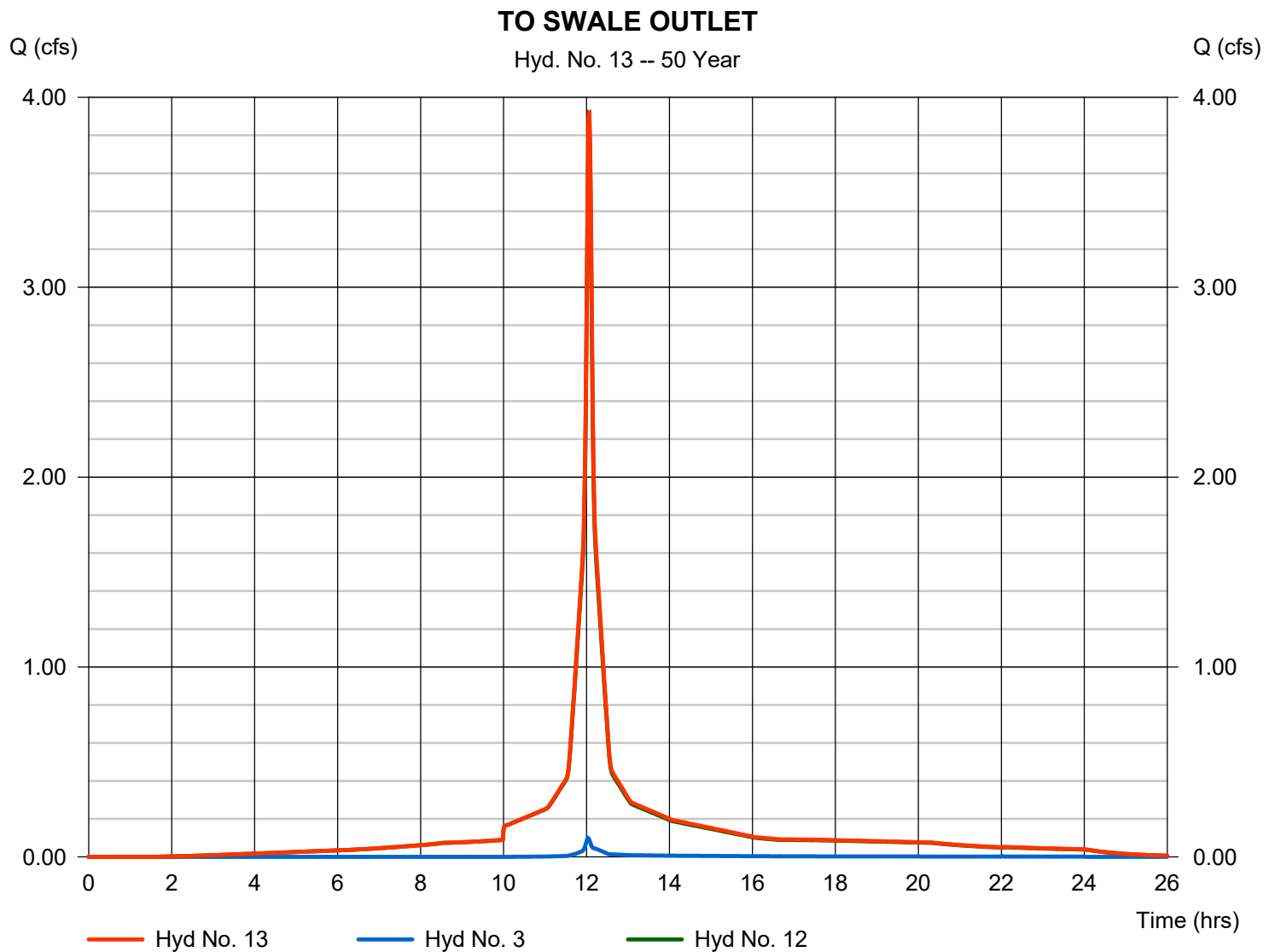
Thursday, 08 / 27 / 2020

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type = Combine
 Storm frequency = 50 yrs
 Time interval = 1 min
 Inflow hyds. = 3, 12

Peak discharge = 3.933 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 12,901 cuft
 Contrib. drain. area = 0.030 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

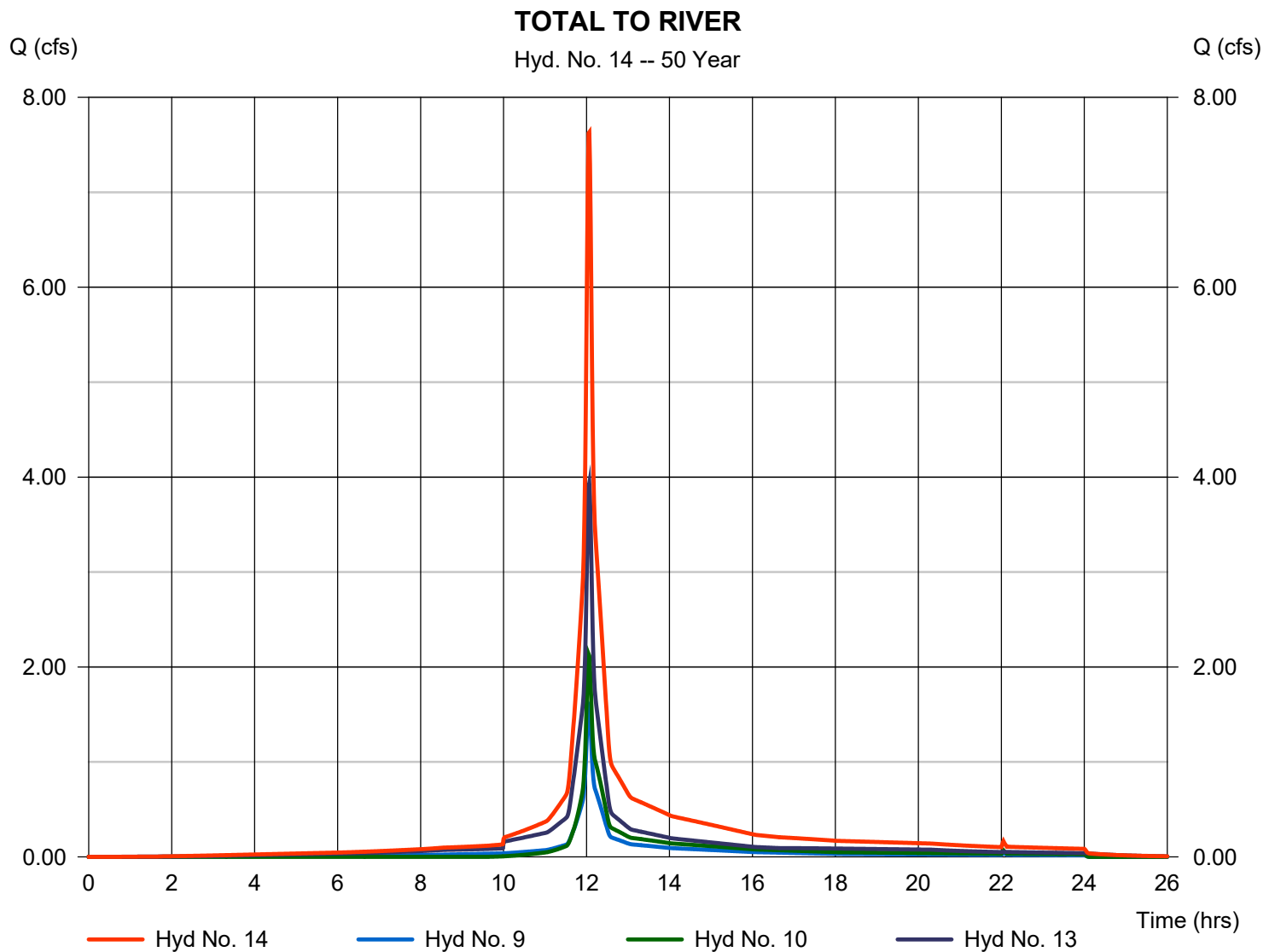
Thursday, 08 / 27 / 2020

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type = Combine
 Storm frequency = 50 yrs
 Time interval = 1 min
 Inflow hyds. = 9, 10, 13

Peak discharge = 7.632 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 24,234 cuft
 Contrib. drain. area = 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.450	1	723	14,588	-----	-----	-----	TO FOREBAY
2	SCS Runoff	0.277	1	722	760	-----	-----	-----	TO BIORETENTION DIRECT
3	SCS Runoff	0.139	1	722	380	-----	-----	-----	TO END OF SWALE
4	SCS Runoff	1.108	1	723	3,242	-----	-----	-----	TO MILL BROOK WEST
5	SCS Runoff	0.966	1	723	3,242	-----	-----	-----	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.775	1	723	5,167	-----	-----	-----	TO MILL BROOK CENTER
7	SCS Runoff	0.462	1	722	1,266	-----	-----	-----	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.739	1	723	2,161	-----	-----	-----	TO MILL BROOK EAST
9	Combine	2.074	1	723	6,484	4, 5,	-----	-----	WEST TO RIVER
10	Combine	2.963	1	723	8,595	6, 7, 8,	-----	-----	EAST TO RIVER
11	Combine	4.720	1	723	15,348	1, 2,	-----	-----	TO POND
12	Reservoir	4.642	1	724	15,344	11	64.52	757	OUT OF BR
13	Combine	4.766	1	724	15,724	3, 12	-----	-----	TO SWALE OUTLET
14	Combine	9.755	1	723	30,803	9, 10, 13	-----	-----	TOTAL TO RIVER
									310 of 350
Proposed H-H.gpw					Return Period: 100 Year			Thursday, 08 / 27 / 2020	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

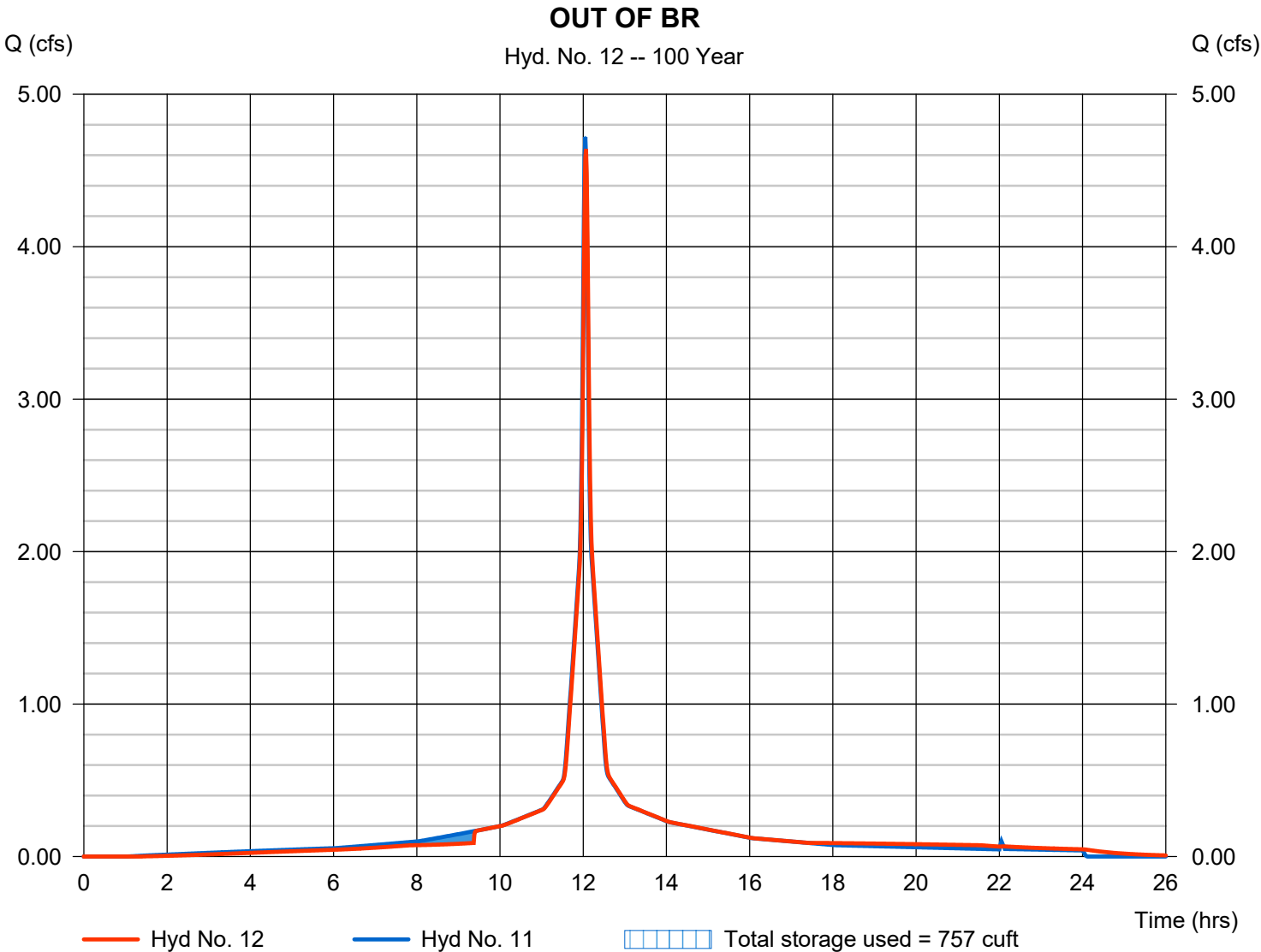
Thursday, 08 / 27 / 2020

Hyd. No. 12

OUT OF BR

Hydrograph type	= Reservoir	Peak discharge	= 4.642 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 15,344 cuft
Inflow hyd. No.	= 11 - TO POND	Max. Elevation	= 64.52 ft
Reservoir name	= BIORET	Max. Storage	= 757 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

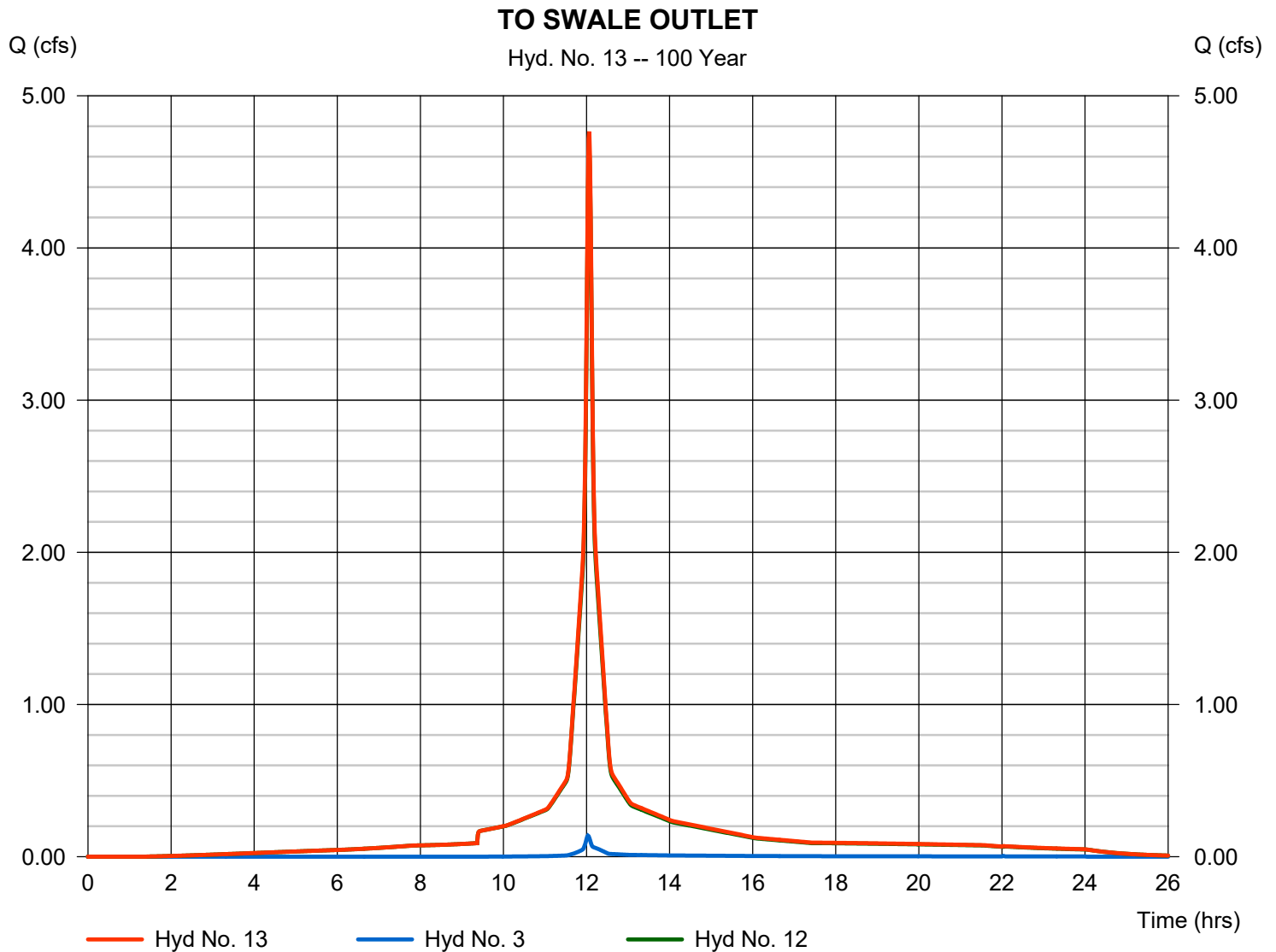
Thursday, 08 / 27 / 2020

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type = Combine
 Storm frequency = 100 yrs
 Time interval = 1 min
 Inflow hyds. = 3, 12

Peak discharge = 4.766 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 15,724 cuft
 Contrib. drain. area = 0.030 ac



Hydrograph Report

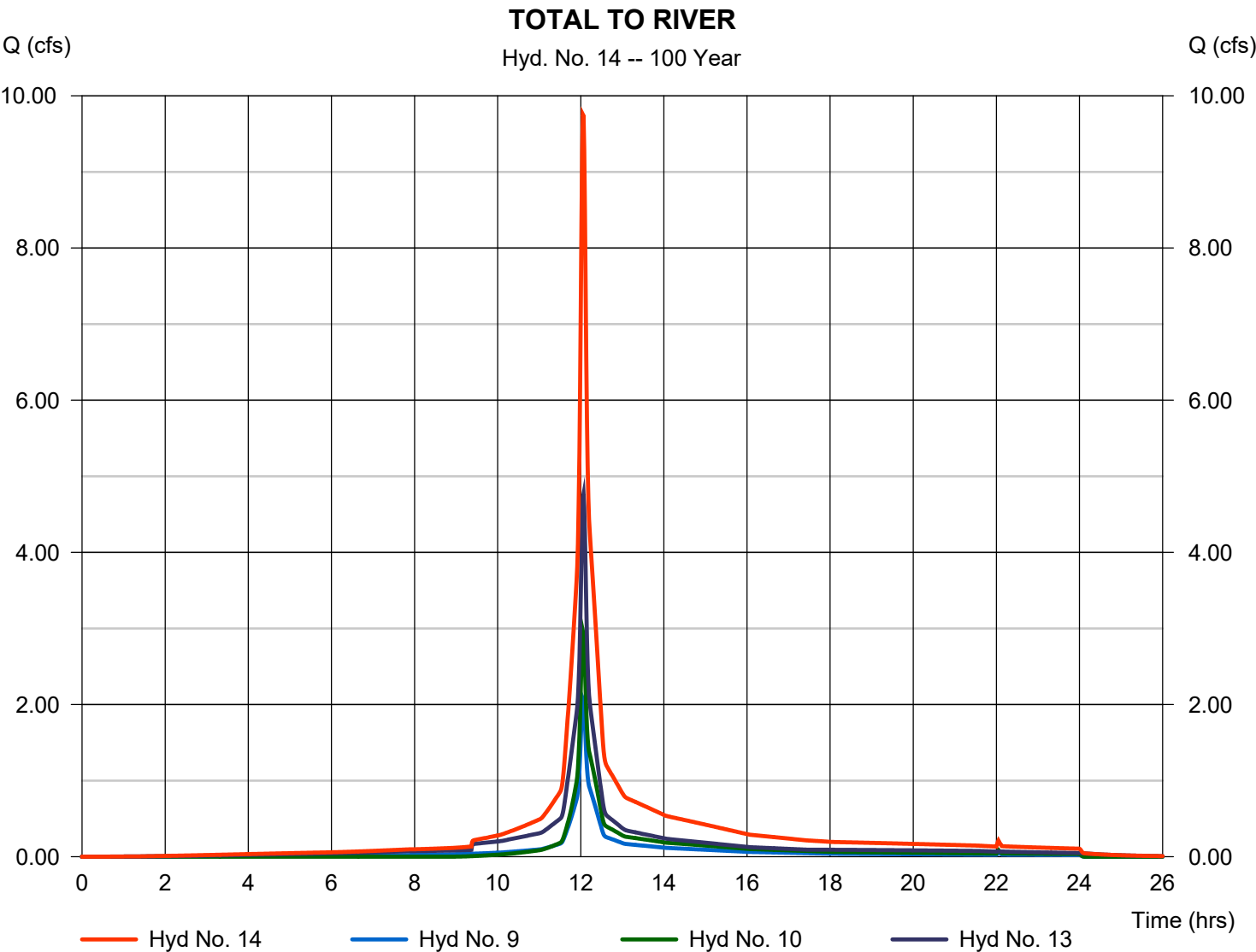
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 9.755 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.05 hrs
Time interval	= 1 min	Hyd. volume	= 30,803 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Thursday, 08 / 27 / 2020

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	-----
2	69.8703	13.1000	0.8658	-----
3	0.0000	0.0000	0.0000	-----
5	79.2597	14.6000	0.8369	-----
10	88.2351	15.5000	0.8279	-----
25	102.6072	16.5000	0.8217	-----
50	114.8193	17.2000	0.8199	-----
100	127.1596	17.8000	0.8186	-----

File name: SampleFHA.idf

$$\text{Intensity} = B / (T_c + D)^E$$

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

T_c = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.58	3.09	0.00	3.90	4.65	5.87	7.00	8.36
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Appendix D – Soil Borings










CLIENT: Town of Arlington
PROJECT NUMBER: 2180078

PROJECT NAME: Wellington Park Revitalization
PROJECT LOCATION: Arlington, MA

DRILLER: Gary Caouette - Technical Drilling Services
LOGGED / CHECKED BY: NP / RJV
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See site plan.
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 9/10/2018 **END DATE:** 9/10/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
9/10/2018	8 ft. +/-	Based on wet samples.

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION <small>(see guide below for soil classification based on constituent percentage)</small>	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									<div>Mineral Soil</div> <div>GRAVEL, SAND, SILT, CLAY: >50%</div> <div>gravelly, sandy, silty, clayey: 35-50%</div> <div>some: 20-35%</div> <div>little: 10-20%</div> <div>trace: 0-10%</div> <div>Organic Soil</div> <div>PEAT: 50-100%</div> <div>organic (soil): 15-50%</div> <div>with some organics: 5-15%</div>	
	S1	0.0	4/24	2 4 7 11	11			TOPSOIL	Medium dense, brown, organic silty SAND, some fine gravel, wood and roots; moist. [TOPSOIL]	Occasional drill rig chatter on possible cobbles below 4 feet.
	S2	2.0	7/24	4 4 4 4	8			FILL	Loose, brown, fine to coarse SAND, little fine to coarse gravel, some silt, trace debris (glass, wood), trace roots; moist. [FILL]	
5	S3	4.0	11/24	15 49 20 19	69			GRAVEL	Very dense, brown, sandy GRAVEL, little silt, occasional mottling; moist.	
	S4	6.0	12/24	12 12 15 17	27			GRAVEL	Medium dense, brown, sandy GRAVEL, little silt, trace clay; moist.	
	S5	8.0	7/24	5 10 9 11	19			SAND	Medium dense, brown, gravelly SAND, some silt, trace clay; wet.	
10								SAND		
15	S6	15.0	13/24	11 7 9 15	16			SAND	Medium dense, brown and gray, fine to coarse SAND, little fine to coarse gravel, trace silt; wet.	
20								SAND		
	S7	20.0	5/6	120				SAND	Very dense, brown and gray, fine to coarse SAND, some fine to medium gravel, trace silt; wet.	
									Split spoon refusal at 20.5 ft. End of boring at 20.5 ft.	

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Town of Arlington
PROJECT NUMBER: 2180078
PROJECT NAME: Wellington Park Revitalization
PROJECT LOCATION: Arlington, MA

DRILLER: Gary Caouette - Technical Drilling Services
LOGGED / CHECKED BY: NP / RJV
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See site plan.
GROUND ELEVATION: Not available
DATUM:
DRILLING START DATE: 9/10/2018
END DATE: 9/10/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION							GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/ft.	SPT N-VALUE	% MOISTURE	% FINES (P200)				
0										Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
	S1	0.0	11/24	3 5 7 5	12				TOPSOIL	Medium dense, brown, organic silty SAND, little gravel, with fine roots; moist. [TOPSOIL]	
	S2	2.0	4/24	2 5 14 12	19				SAND	Medium dense, brown and gray, fine to coarse SAND, little gravel, little silt, with trace organics and occasional fine roots; moist.	
5	S3	4.0	11/24	8 5 5 3	10					Medium dense, brown, gravelly fine to coarse SAND, trace silt, mottling present, with occasional fine roots; moist.	Occasional drill rig chatter on possible cobbles below 4 feet.
	S4	6.0	12/24	18 14 18 25	32				GRAVEL	Dense, brown and gray, sandy fine to coarse GRAVEL, little silt, trace clay, mottling present, with occasional fine roots; moist.	
10											

Auger refusal on possible boulder at 10 ft.
 End of boring at 10 ft.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30 > 30	Very Stiff Hard	

CLIENT: Town of Arlington
PROJECT NUMBER: 2180078

PROJECT NAME: Wellington Park Revitalization
PROJECT LOCATION: Arlington, MA

DRILLER: Gary Caouette - Technical Drilling Services
LOGGED / CHECKED BY: NP / RJV
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER: Grounwater monitoring well installed following completion.

BORING LOCATION: See site plan.
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 9/10/2018 **END DATE:** 9/10/2018

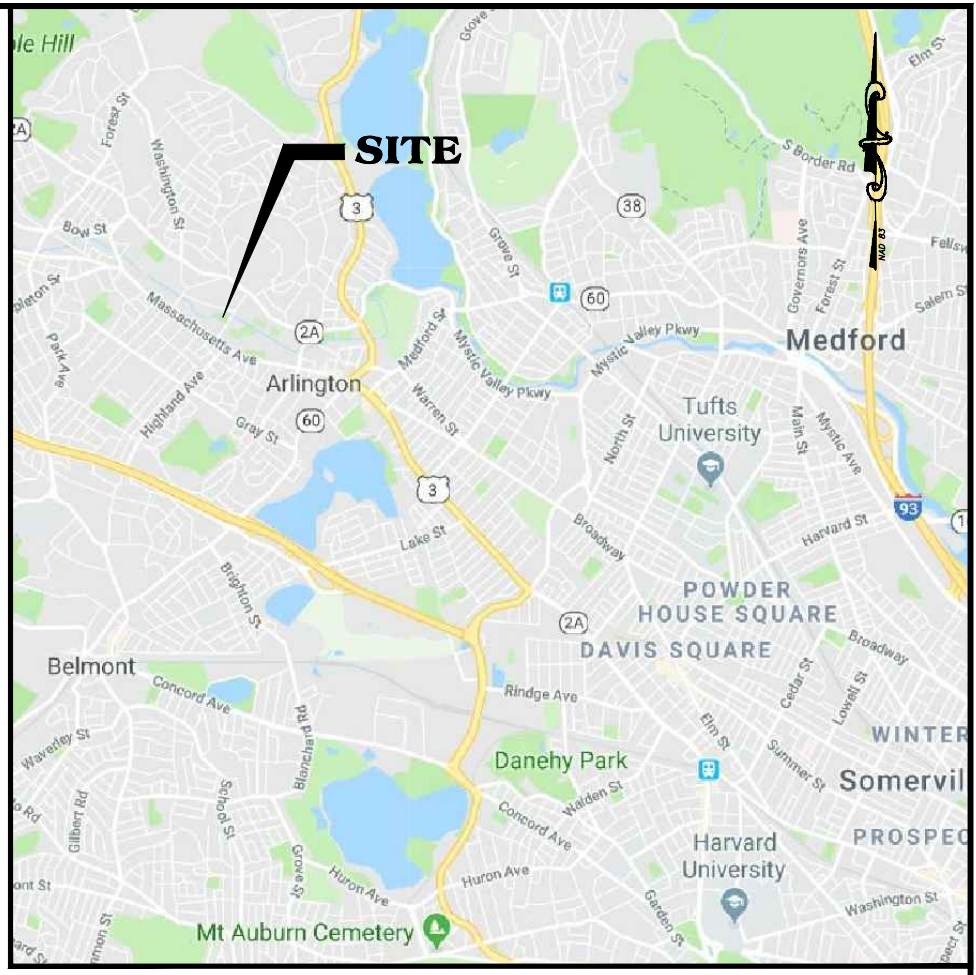
GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
9/10/2018	12.5 ft. +/-	Approximate depth based on wet samples.

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
	S1	0.0	11/24	5 7 7	14			TOPSOIL	Medium dense, brown, organic silty SAND, little gravel, trace fine roots; moist. [TOPSOIL]	
	S2	2.0	10/24	6 7 7 20	14			SAND	Medium dense, brown, fine to medium SAND, some silt, little gravel, trace clay, with trace fine roots; moist.	Occasional drill rig chatter on possible cobbles below 4 feet.
5	S3	4.0	11/24	63 43 28 30	71				Very dense, pale brown, gravelly fine to coarse SAND, little silt, trace clay; moist.	
	S4	6.0	18/24	35 33 57 33	90				Very dense, pale brown, gravelly fine to coarse SAND, little silt, trace clay; moist.	
	S5	8.0	15/24	24 24 29 33	53				Very dense, pale brown, gravelly fine to coarse SAND, little silt, trace clay; moist.	
10										
15									Assumed lithology change	
	S6	15.0	17/24	28 21 32 33	53			GRAVEL	Very dense, brown, sandy fine to coarse GRAVEL, little silt; wet.	
20										
	S7	20.0	/24	25 25 29 31	54				Very dense, brown, sandy GRAVEL, little silt; wet.	

End of Boring at 22 feet. Groundwater monitoring well installed to 20 feet following completion.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	



NOTES:

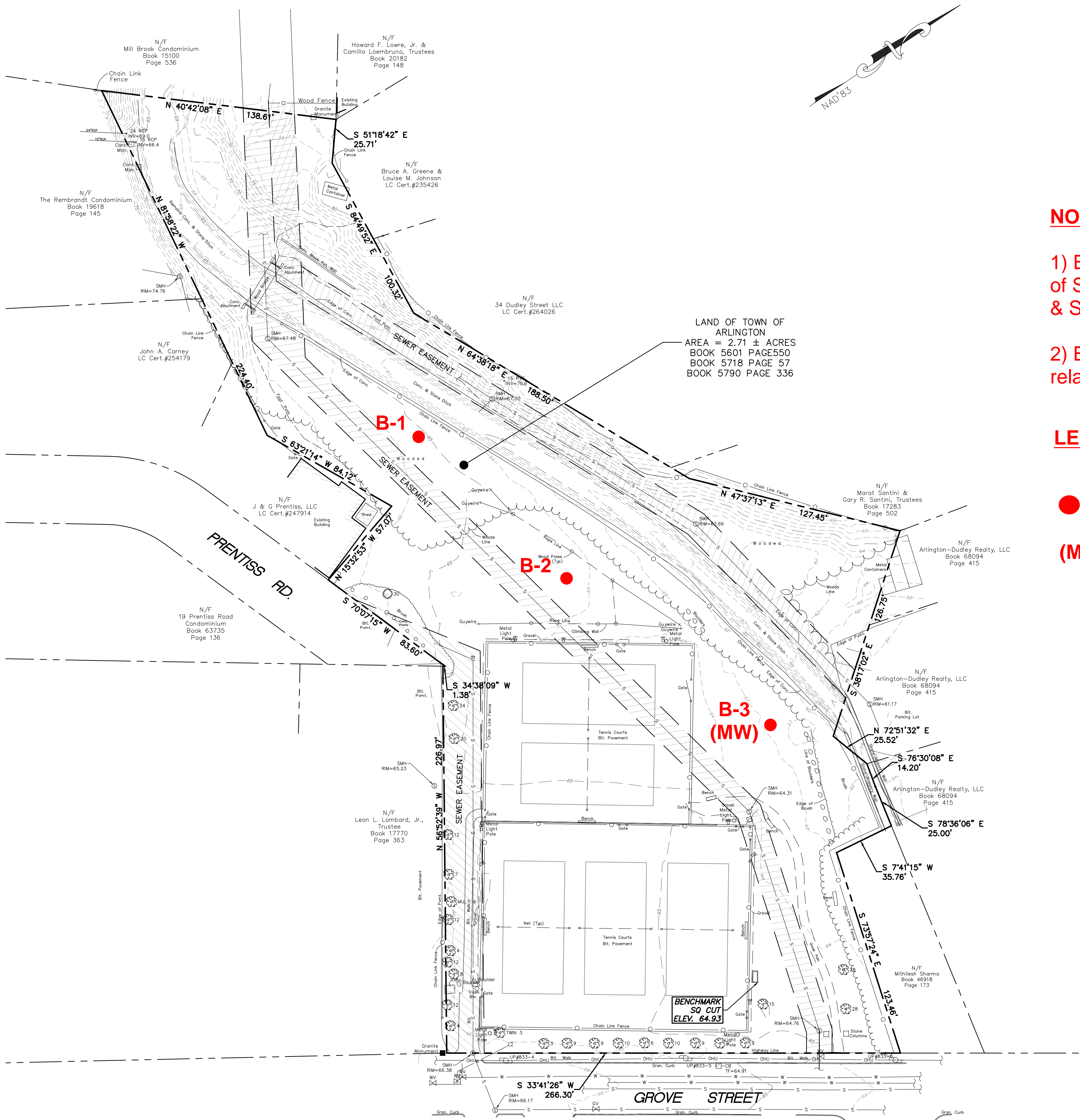
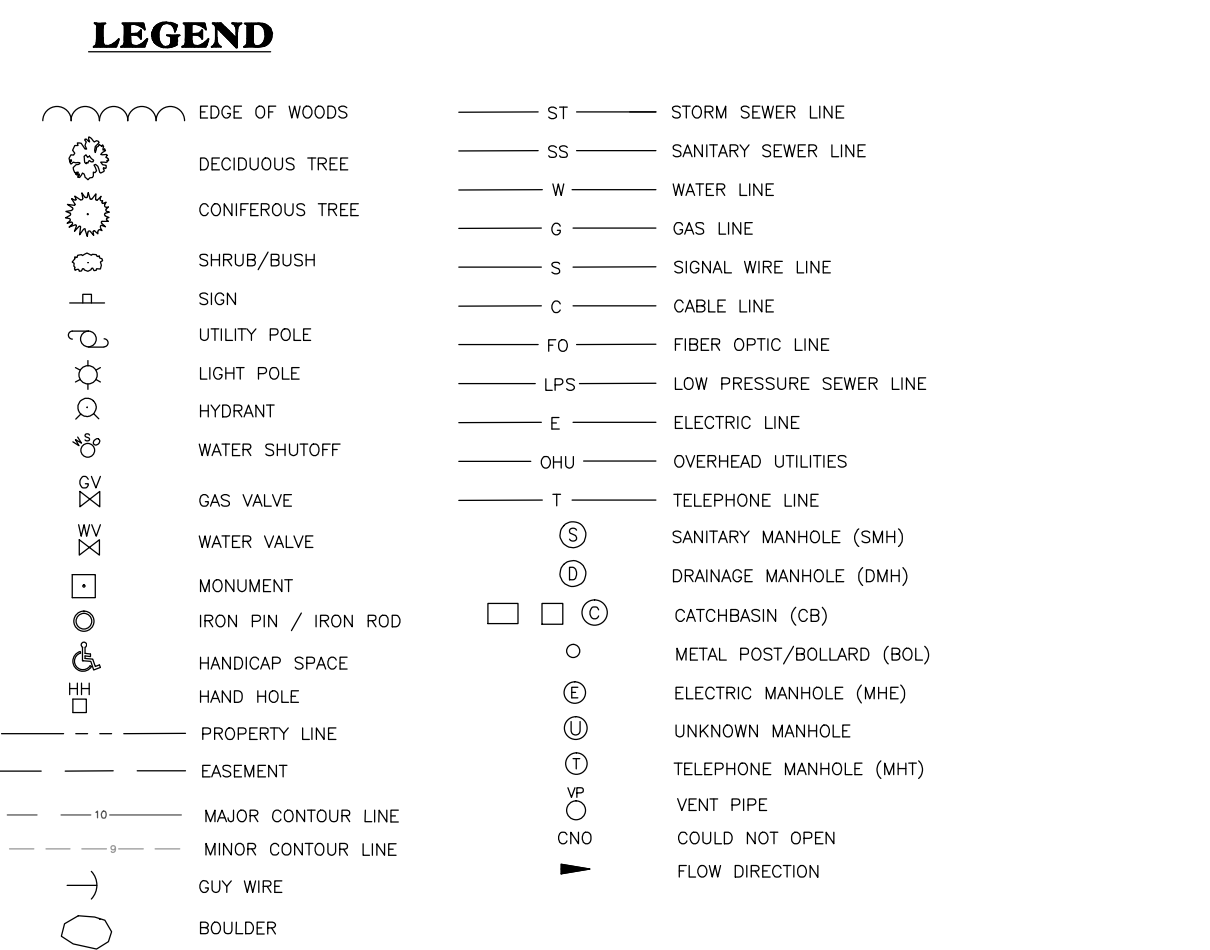
1) Borings were drilled by Technical Drilling Services of Sterling, Massachusetts, and observed by Weston & Sampson on September 10, 2018.

2) Boring locations are based on field measurements relative to existing site features and are approximate.

LEGEND:

B-1
● Designation and approximate location of borings

(MW) Indicates a groundwater monitoring well was installed in the boring upon completion



1. BEARINGS REFER TO THE MASSACHUSETTS NAD 83 STATE PLANE COORDINATE SYSTEM (MAINLAND ZONE).
2. ELEVATIONS REFER TO THE 1988 NORTH AMERICAN DATUM (NAVD 88).
3. REFERENCE IS MADE TO THE FOLLOWING MAPS:
 - A. "PLAN OF BUILDING LOTS IN ARLINGTON MASS. BELONGING TO W.M. RICHMOND, JR., RICHMOND ST., SCALE 1"=40', DATED JUNE 1969, RECORDED IN PLAN BOOK 86, PLAN 2 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - B. "PLAN OF LOTS BELONGING TO GEORGIANNA HOBBS ARLINGTON, MASS.", BY JAMES M. KEANE, SCALE 1"=40', DATED FEBRUARY 1906, RECORDED IN PLAN BOOK 87, PLAN 37 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - C. "SECTION 80 MILL BROOK VALLEY SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED JULY 1926.
 - D. "PLAN OF LAND IN ARLINGTON MASS.", BY C.H. GANNETT CO., SCALE 1"=30', DATED NOVEMBER 1926, RECORDED AS PLAN 979 OF 1931 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - E. "PLAN OF LAND IN ARLINGTON MASS. TO BE TAKEN FOR PARK PURPOSES", BY JAMES M. KEANE, SCALE 1"=30', DATED FEB. 14, 1933, RECORDED AS PLAN 162 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - F. "PLAN SHOWING LAND TO BE TRANSFERRED IN ARLINGTON MASS.", BY JAMES M. KEANE, SCALE 1"=30', DATED FEB. 14, 1933, RECORDED AS PLAN 38 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - G. "DENNIS HURLEY PLAN OF LAND GROVE STREET ARLINGTON", BY RALPH ADAMS, SCALE 1"=20', DATED DEC. 3, 1933, RECORDED AS PLAN 20 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - H. "SUBDIVISION OF LAND IN ARLINGTON MASS.", BY JOS. J. SULLIVAN, SCALE 1"=20', DATED MAY 1976, RECORDED AS PLAN 761 OF 1946 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - I. "SUBDIVISION OF LAND IN ARLINGTON MASS.", BY T.F. GEARY, SCALE 1"=20', DATED OCT. 30, 1947, RECORDED AS PLAN 449 OF 1949 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - J. LAND COURT PLAN 20978A DATED OCTOBER 1947.
 - K. LAND COURT PLAN 22019A DATED SEPTEMBER 1949.
 - L. "PLAN OF THE RELOCATION OF GROVE STREET ARLINGTON AS ORDERED BY THE COUNTY COMMISSIONERS OF ARLINGTON, MASS.", DATED 1964, RECORDED AS PLAN 133 OF 1967 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - M. "SECTION 92 MILL BROOK VALLEY RELIEF SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED MAY 1966.
 - N. "THE COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION SEWERAGE DIVISION PLAN OF LAND IN ARLINGTON", SCALE 1"=40', DATED MAY 1966, RECORDED AS PLAN 281 OF 1967 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - O. "PLAN OF LAND IN ARLINGTON MASS.", BY CURLEY & HANSEN, SCALE 1"=20', DATED MAY 29, 1971, RECORDED AS PLAN 657 OF 1971 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - P. LAND COURT PLAN 4481B DATED APRIL 26, 1969.
 - Q. "PLAN OF LAND IN ARLINGTON MASS. SHOWING SEWER & WATER EASEMENT", BY HIGGINS, SCALE 1"=20', DATED JAN. 1973, RECORDED AS PLAN 65 OF 1973 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - R. "PLAN OF LAND IN ARLINGTON MASS.", BY HAYES ENGINEERING INC., SCALE 3"=30', DATED JANUARY 31, 1983, RECORDED AS PLAN 144 OF 1983 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - S. "PLAN OF LAND IN ARLINGTON MA. PREPARED FOR ROSE-MAL HERITAGE REALTY TRUST", BY DAVID D. LANATA & ASSOC., INC., SCALE 1"=20', DATED JUNE 24, 1987, RECORDED AS PLAN 1185 OF 1987 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - T. LAND COURT PLAN 4481C DATED OCTOBER 11, 2001.
 - U. "SITE PLAN 19 PRENTIS ROAD ARLINGTON MA 02147", BY PFS LAND SURVEYING, INC., SCALE 1"=40', DATED 12/24/2013, RECORDED AS PLAN 473 OF 2014 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
4. THE PROPERTY IS TOGETHER WITH AND SUBJECT TO SUCH EASEMENTS AND RIGHTS OF RECORD AS MAY APPEAR.
5. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES. GOVERNING AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE. THE EXISTENCE OF WHICH ARE UNKNOWN TO WESTON & SAMPSON. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG.

THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE
REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THE PROPERTY LINES SHOWN ARE THE LINES DIVIDING EXISTING OWNERSHIPS AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

Michael G. Wilmes, L.S. 34322 Date

[illegible]

GRAPHIC SCALE 1" = 30

MAP OF SURVEY	
WELLINGTON PARK	
TOWN OF ARLINGTON	
COUNTY OF MIDDLESEX	COMMONWEALTH OF MASSACHUSETTS
DRAWN BY Wellington Park SURV	
DATE: Sept. 1930	SHEET 1 OF 1
DRAWN BY 1-30' N2180067	

Weston & Sampson Engineers, Inc.
5 Centennial Drive, Peabody, MA 01960 Tel: (978)532-1900

Appendix E – Site Photographs



Photograph 1: Looking back towards the main park entrance adjacent to the tennis courts, this is the proposed location for the naturalistic exploration and seating area.



Photograph 2: Far end of the existing boardwalk (constructed as part of the previous phase) with no accessible transition to adjacent surface.



Photograph 3: Low area at the base of Prentiss Road, which acts as an entry point for stormwater runoff into the park.



Photograph 4: Overgrown area that runs behind the Prentiss Road properties toward the pedestrian footbridge.



Photograph 5: Steeply sloped compacted earth pathway towards the pedestrian bridge between Prentiss Road and the flood storage area, constructed as part of the previous phase.



Photograph 6: Existing pressure-treated footbridge over Mill Brook towards Dudley Street.

Appendix F – Operation and Maintenance Plan



MEMO

Date: 9/2/2020

To: Arlington Park and Recreation Commission

From: Andrew Keel
Hatch Associates Consultants, Inc.
27 Congress Street, Suite 508
Salem, MA 01970
978-224-3110

Re: **Wellington Park and Mill Brook Corridor Revitalization Project – Phase 3
Operations and Maintenance Plan**

Attachments: - Biobasin and Swale - Field Inspection Checklist
- Porous Paving - Field Inspection Checklist
- Operations and Maintenance Areas Diagram

General Information

1. Stormwater management system owner: Town of Arlington Park and Recreation Commission and Department and Public Works
2. Parties responsible for O&M: Town of Arlington Park and Recreation Commission and Department and Public Works. The Contractor is responsible for operations and maintenance of the system during construction.
3. The stormwater management system will be inspected and cleaned prior to the completion of construction by the Contractor. A report of the inspection/cleaning will be forwarded to the design engineer and the Town of Arlington Conservation Commission. All material removed during the cleaning operations shall be disposed of in accordance with applicable guidelines and regulations.
4. The stormwater management system shall be inspected the first year of operation after large rainfall events (all storms greater than 1-inch in 24-hour period) to verify functionality.
5. All post construction maintenance activities will be documented and kept on file and made available to the Arlington Conservation Commission upon request.
6. The drainage system shall be maintained. The repair of any component of the system shall be made as soon as possible to prevent any potential pollutants (including silt) from entering the resource areas or drainage system.



Stormwater components: (at the base of Prentiss Road)

1. Bioretention Basin (Biobasin)

- Bioretention Basin and Vegetated Swale designed to slow and treat stormwater runoff coming into park from Prentiss Street.
- The system is designed to infiltrate stormwater with no underdrain.
- Phase 2 boring results show well-draining soils for infiltration.
- 6" ponding depth and is designed to drain in less than 48 hours maximum.
- The basin floor is 18" layer of engineered soil, designed to control the rate of infiltration.
- Beneath engineered soil is a layer of crushed stone to improve infiltration capacity.
- The Biobasin vegetation will be limited to 7 species to facilitate ease of weed/invasives control and have similar appearance to the Spy Pond Bioretention Basin.

2. Vegetated Swale

- The Vegetated Swale is a broad, shallow channel designed to slow runoff, promote infiltration of stormwater, and filter pollutants/sediments while conveying runoff to Mill Brook.
- The Vegetated Swale is approximately six feet (6') wide with a two foot (2') wide channel bottom.
- Side slopes are graded at a 3:1 slope and the swale depth is twelve inches (12").
- The Vegetated Swale will be planted on the side slides with a stone bottom to promote conveyance/infiltration.

Construction of the System

Sediment and erosion control during construction will prevent possible damage to the drainage systems. The following guidelines shall be adhered to during construction.

1. Keep land disturbance to a minimum. Plan the phases of development so that only the areas actively being developed are exposed. All other areas should have natural vegetation preserved, have good temporary cover, or permanent vegetation established.
2. Stabilize disturbed areas. Permanent structures, temporary or permanent vegetation, and mulch should be employed as quickly as possible after land is disturbed.
3. Protect disturbed areas from stormwater runoff. Install erosion control or stormwater management measures to prevent water from entering and running over disturbed areas, and to prevent erosion damage to downstream facilities.
4. Install perimeter control practices. Use practices that isolate the development site from surrounding areas. Straw wattles shall be utilized.

Maintenance



**TABLE 1: STORMWATER GREEN INFRASTRUCTURE BEST MANAGEMENT PRACTICE (BMP)
MAINTENANCE DURING CONSTRUCTION**

Sediment Control	Inspection	Maintenance Thresholds	Maintenance Action
Erosion control straw wattles	Weekly and after large storm events (more than 1-inch of rainfall in 24-hr period).	When accumulated sediment reaches ½ the height of wattle; If integrity of system is compromised.	Remove and dispose of accumulated sediment; Restore the integrity of the system
Adjacent Roadways	Throughout construction.	Any sediment or debris deposited on roadways.	Remove/clean sediment or debris deposited on the roadway due to construction activities
Grassed Swale	Weekly and after large storm events (>than 1-inch of rainfall in 24-hr)	Flow to grassed swale shall be diverted until vegetation is stabilized.	Remove / dispose of accumulated sediment; restore if needed
Bioretention Basin	Weekly and after large storm events (>than 1-inch of rainfall in 24-hr)	Flow to grassed swale shall be diverted until vegetation is stabilized.	Remove and dispose of any accumulated sediment at diversion; restore if needed

GI BMP	Maintenance Activity	Frequency	Responsible Party
Grassed Swale	Inspect swale and repair areas of erosion and revegetate	As needed, but no less than annually	Parks and Recreation
	Mow	As necessary. Grass not to exceed 6 inch height	Parks and Recreation
	Remove sediment and debris manually	Monthly/as needed	DPW
Bioretention Basin	Remove sediment, trash and debris from forebay, basin floor, inlets, and outlets; remove weeds and invasive species by hand (growing season only).	Monthly	Vegetation Management – Parks and Recreation; Volunteer groups
	Inspect check dams and trench drain; remove leaves, debris, trash and sediment.	Annually	
	Apply two inch (2”) layer of clean hardwood mulch.	Every 3 to 5 years	
Porous Bituminous Concrete	Remove foliage / debris	As needed, but no less than every 6 months	Parks and Recreation
	Vacuum Cleaning	Every 6 months	DPW

Maintenance Budget

Maintenance costs would be included in DPW or Parks and Recreation Departments operating budget plantings and invasive removal upkeep maintained by volunteer groups.

Other Maintenance Requirements and Responsibility

1. Porous Asphalt (see attached checklist); assume Arlington DPW responsibility.
2. Boardwalk - Replace boards/railings periodically, as needed; assume Parks and Recreation Responsibility.
3. Woodland Areas – New Plantings:
 - a. Do not cut or mow.
 - b. Manually remove invasive species, twice per growing season; assume Parks and Recreation and/or Wellington Park friend's group.
4. Meadow and Tall Turf Areas (assume Parks and Recreation responsibility):
 - a. Cut annually in the spring to height no lower than six inches (6").
 - b. Tall Turf lawn areas (pathway shoulders): Mow tall turf seasonally as need to 2.5-3" minimum height.
5. Naturalistic Exploration Area:
 - a. Mowing of micro-clover lawn area and other turf areas, as needed; assume Parks and Recreation.

Wellington Park Field Inspection Checklist

Bioretention Basin and Vegetated Swale

Date of Inspection: _____ **Location:** _____ **Inspector:** _____

Task	Frequency				Comments
	1M	3M	6M	12M	
Inspect Bioretention Basin for sediment and debris			X		<input type="checkbox"/> Remove any accumulated sediment, debris, or trash. <input type="checkbox"/> Stabilize/repair any eroded areas, bare spots and slopes/banks where appropriate. <input type="checkbox"/> Properly dispose of all materials offsite. <input type="checkbox"/> Ensure checkdams are free of obstructions and debris.
Inspect Growing Medium (Planting Soils)				X	<input type="checkbox"/> In compacted areas or where ponding has occurred, remove top few inches of discolored material. Rake, till or amend with Town-approved Biobasin soil mix. <input type="checkbox"/> Remove sediment as necessary. If sediment removal results in 2" or more of soil has been removed then replace with Town-approved Biobasin soil mix.
Weed (including invasives), Dead or Dying Vegetation			X		<input type="checkbox"/> Manually remove weeds and dead/dying vegetation. <input type="checkbox"/> Basins should not appear overgrown. <input type="checkbox"/> Plantings have distinct edges confined to planting areas. <input type="checkbox"/> Properly dispose of all materials offsite.
Replace Vegetation				AN	<input type="checkbox"/> Replace dead plants (re-plant per original planting plan). <input type="checkbox"/> Stabilize any eroded areas, bare spots and slopes/banks with additional approved plantings where appropriate. <input type="checkbox"/> Do not apply fertilizers, herbicides or pesticides. <input type="checkbox"/> Re-seed the Vegetated Swale as necessary.
Maintain Tall Turf Grasses	X			X	<input type="checkbox"/> Tall Turf Lawn areas shall be kept mowed with enough frequency to keep a maintained appearance throughout the growing season. <input type="checkbox"/> Vegetated Swale should be mowed as necessary to ensure grass length does not exceed six (6) inches and two inch (2") minimum depth. <input type="checkbox"/> Manually cut perennial grasses and wildflowers within the Biobasin and Grassland (Meadow) in early Spring as directed in Report. <input type="checkbox"/> Properly dispose of all materials offsite.

Vector Controls (Wildlife)				X	<input type="checkbox"/> Biobasin shall not harbor mosquito larvae or rats that pose a threat to public health or facility structure. <input type="checkbox"/> Note holes/burrows in and around Biobasin. <input type="checkbox"/> Record the time/date, weather and site conditions when vector activity is observed. <input type="checkbox"/> Check for and note animal holes/burrows and any system short circuiting. Repair burrows when they occur, fill in and lightly compact holes with Town-approved biobasin soil mix.
Inspect Vegetated Swale				X	<input type="checkbox"/> Ensure vegetation is adequate. Replace as necessary. <input type="checkbox"/> Look for signs of rilling/gullyng. Repair any rills or gullies.
Inspect for Hardpan at Bottom of Biobasin				X	<input type="checkbox"/> Hardpan occurs when the coil becomes cemented, forming an impervious layer. Where this has occurred, scarify the soil to a depth of four to six inches (4"-6").

Inspection Notes and Additional Requirements:

- Complete inspections as noted and after a major storm event (rainfall totals greater than 0.5 inches in 24 hours).
- All facilities should drain within 48 hours, if ponding is observed after two (2) days notify Arlington Parks and Recreation.
- Maintain an annual inspection and maintenance log (including this form) with a summary of completed remediation efforts (ie. Date, contractor (if applicable,) replacement plant material, invasive plants removed, structural repairs and landscape maintenance activities.
- Record photos (from consistent locations) should be taken of each facility during each inspection.
- During first three (3) years of establishment, arrange for water with Arlington Parks and Recreation as required during extended periods without rainfall.
- Contact Arlington Parks and Recreation for immediate assistance responding to any spills.
 - Record the time/date, weather, and site conditions if site activities contaminate stormwater.
 - Record the time/date and description of corrective action taken.

Wellington Park Field Inspection Checklist

Porous Bituminous Concrete Paving

Date of Inspection: _____ Location: _____ Inspector: _____

Task	Frequency				Comments
	1M	3M	6M	12M	
Inspect Porous Paving surface for damaged areas and imperfections				X	<input type="checkbox"/> Check for damaged areas each spring. <input type="checkbox"/> Repair damaged areas with porous material approved by the Arlington Department of Public Works (DPW).
Foliage Debris Removal			X		<input type="checkbox"/> Inspect paved surface for buildup of foliage debris such as leaves, grass clippings, or other vegetation; spring and late fall, use Blower to clear the paved surface of debris.
Vacuum Cleaning and Foliage Debris Removal			X		<input type="checkbox"/> Vacuum with regenerative air sweeper at least (2) times per year. Recommended cleaning times include spring cleanup after snow melt and fall cleanup to remove organic material.
Shoulder Maintenance				X	<input type="checkbox"/> Planted and seeded areas adjacent to pavement should be adequately maintained to prevent soil washout onto pavement surface. <input type="checkbox"/> Should washout occur, soil and debris should immediately be cleaned off the pavement to prevent clogging of the material voids. <input type="checkbox"/> If erosion is observed, the affected area should be replanted or stabilized.
Snow Removal				AN	<input type="checkbox"/> Porous surface can handle small snow accumulations but will not drain effectively if more than two inches (2") of compacted snow/ice form on top. <input type="checkbox"/> Snow plowing for significant snow accumulation should be done carefully. <input type="checkbox"/> Under NO circumstance should the surface be treated with sand.

Key: 1M = monthly; 3M = every three months; 6M = every six months; 12M = every twelve months; AN = As Needed

Clogged Pavement			X		<input type="checkbox"/> Use copious amounts of water applied at low pressure to wash out loose fines through the pores. <input type="checkbox"/> If loose fines persist after application of water at low pressure, a regenerative air sweeper may be used to dislodge material from the surface. <input type="checkbox"/> Should the porous pavement become completely clogged, power washing can be used to clean the clogged areas (pressure not more than 500 psi at an angle of 30 degrees or less should be used).
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Inspection Notes and Additional Requirements:

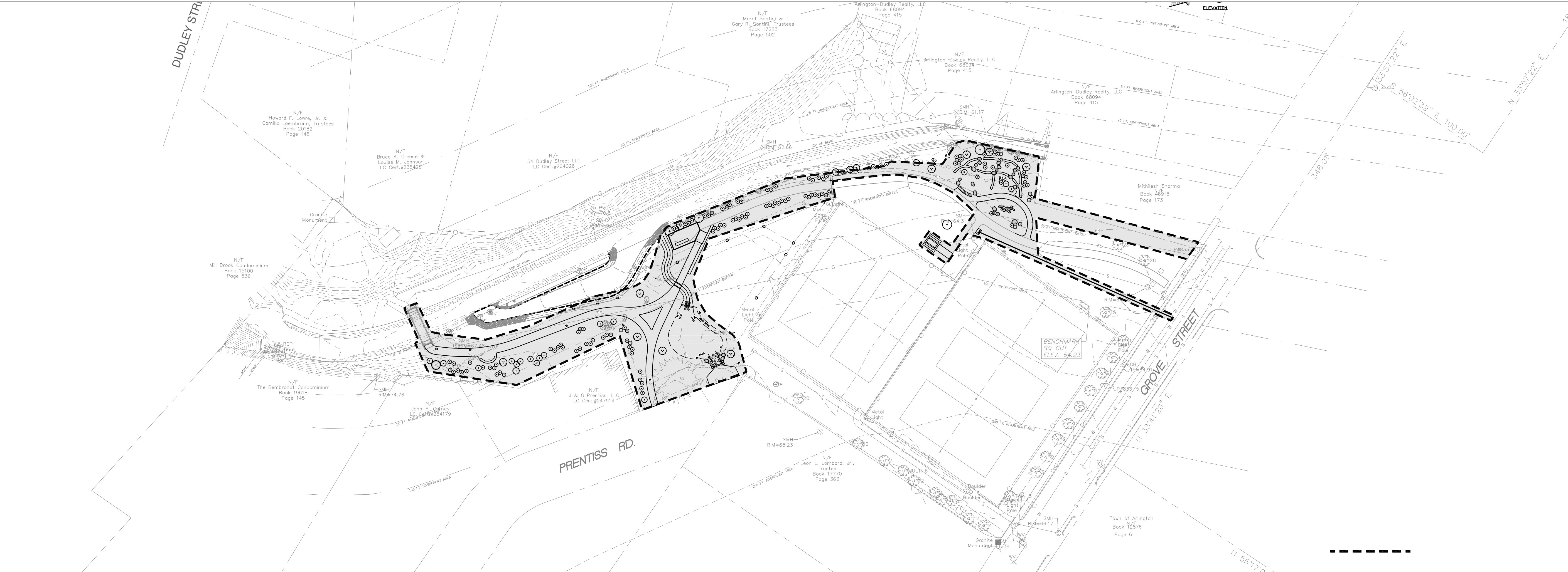
1. Complete inspections as noted and after major storm event (as directed by Parks and Recreation Manager).
2. All facilities should drain within 24 hours, if ponding is observed notify Arlington Parks and Recreation.
3. Maintain an annual inspection and maintenance log (including this form) with a summary of completed remediation efforts (ie. Date, contractor (if applicable), replacement plant material, invasive plants removed, structural repairs, and costs).
4. Record photos (from consistent locations) should be taken of each facility during each inspection.
5. If ponding is observed, notify Arlington Parks and Recreation. Record time, date, weather, and site conditions.
6. The Contractor shall provide the following seasonal focus to their work:
 - a. Spring - Blow off surface of porous paving and vacuum in late spring. Replant exposed soil and re-seed as necessary.
 - b. Summer - Make structural repairs to porous paving.
 - c. Fall - Replace exposed soil and dead plants, remove leaves, sediment, and vacuum.
 - d. Winter - Monitor infiltration/ flow-through rates. Plow surface as needed. Do not apply sand to paving surface.

Appendix G – Drawings

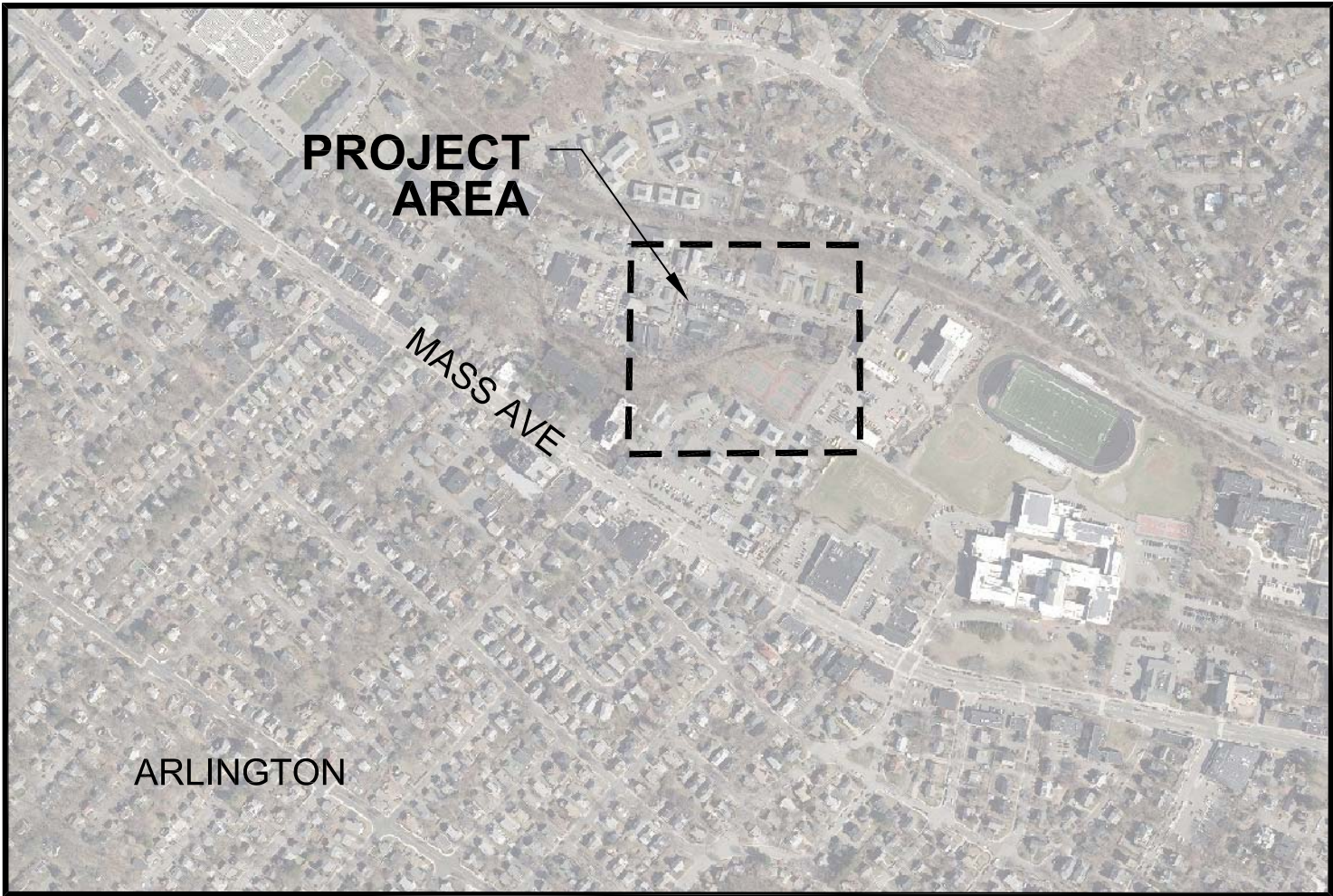
WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT

75% CONSTRUCTION DOCUMENTS
SEPTEMBER 17, 2020

PROJECT LOCATION PLAN



SITE LOCUS PLAN - ARLINGTON



SCALE: NTS

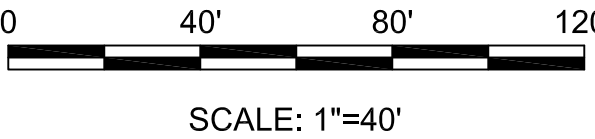
PROJECT DESCRIPTION

THE ARLINGTON PARK AND RECREATION COMMISSION AND ITS PARTNERS WISH TO COMPLETE A COMMUNITY-DRIVEN DESIGN THAT WILL IMPROVE PASSIVE RECREATIONAL OPPORTUNITIES AT WELLINGTON PARK IN A MANNER THAT USES ENVIRONMENTALLY SUSTAINABLE APPROACHES WHILE MEETING THE FOLLOWING GOALS:

- INCREASE ACCESS WITHIN THE PARK AND ALONG THE BROOK WITH APPROXIMATELY XX LF OF NEW POROUS PATHWAY
- INCREASE RECREATIONAL QUALITY AND OPPORTUNITY WITH NEW SITE AMENITIES INCLUDING BENCHES, PICNIC TABLE, DRINKING FOUNTAIN AND NATURALISTIC EXPLORATION AREA
- PROTECT AND ENHANCE WILDLIFE HABITAT ALONG THE BROOK WITH NATIVE PLANTINGS DERIVED FROM A PLANT COMMUNITY BASED APPROACH
- IMPROVE WATER QUALITY OF WELLINGTON BROOK BY PREVENTING DIRECT RUNOFF INTO THE BROOK AND INCREASING STORMWATER INFILTRATION

DRAWING INDEX

SHEET NO.	SHEET TITLE
-	COVER SHEET
EC-1	EXISTING CONDITIONS PLAN
SP-1	SITE PREPARATION PLAN
L-1	SITE PLAN
L-2	PLANTING PLAN
L-3	NATURALISTIC EXPLORATION AREA ENLARGEMENT PLAN AND DETAILS
L-4	BIORETENTION BASIN AND SWALE ENLARGEMENT PLAN AND DETAILS
L-5	BOARDWALK ENLARGEMENT PLAN AND DETAILS
L-6	SITE DETAILS
L-7	PLANTING DETAILS



Client/Owner:



Town of Arlington
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HATCH

27 Congress Street, Salem, MA 01970
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Project:

WELLINGTON PARK & MILL BROOK CORRIDOR
REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK - ARLINGTON, MA
75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00

Hatch Project Number: H-362472

Date: September 17, 2020

Drawn By: AK, AG

Designed By: AK

Reviewed By: DB

Scale: As shown

Revisions

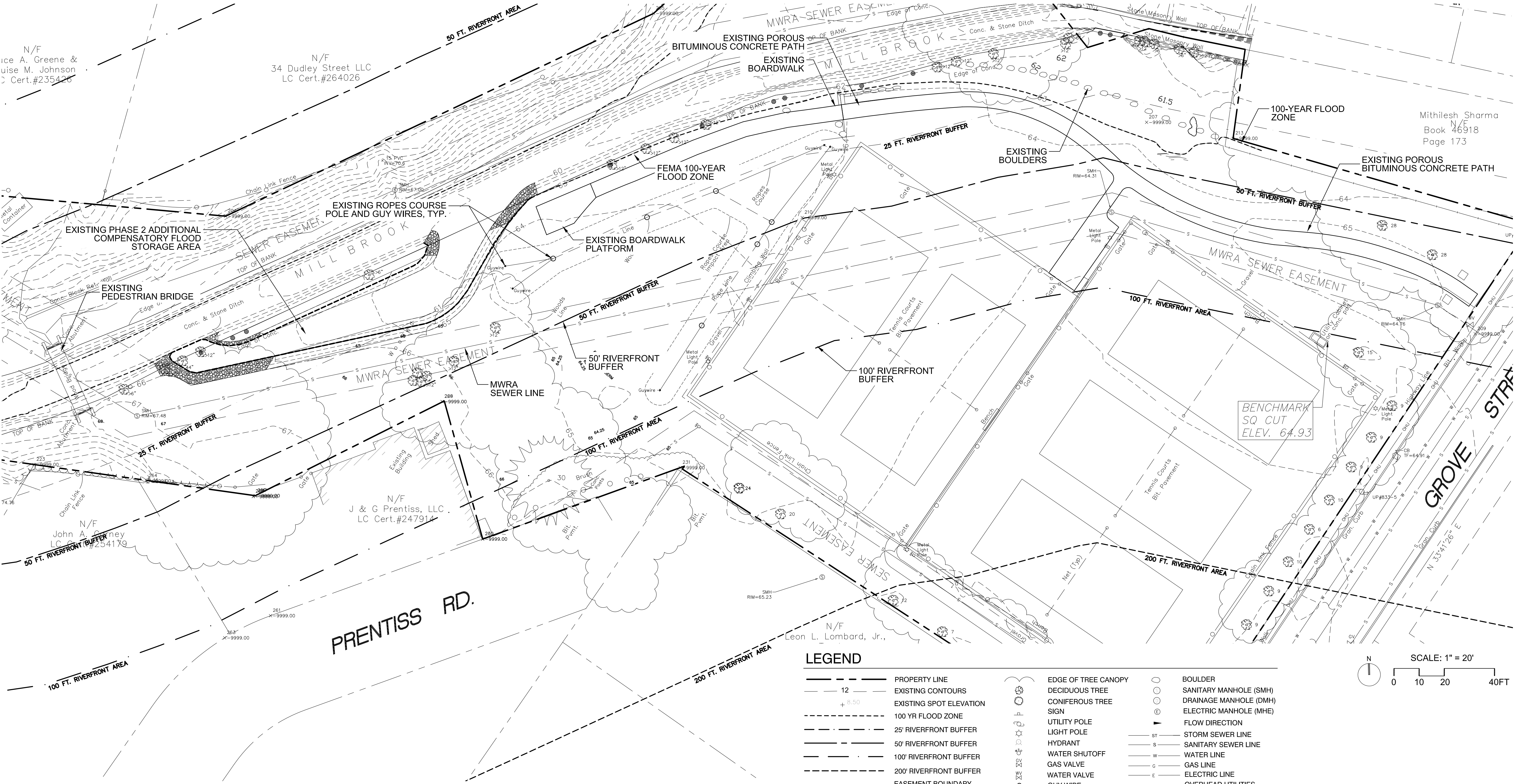
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Sheet Title:

COVER SHEET

Sheet No:

L-0



SURVEY NOTES

- TOPOGRAPHIC SURVEY INFORMATION IS A COMBINATION OF AN ON-THE-GROUND INSTRUMENT SURVEY BY WESTON AND SAMPSON LAND SURVEYORS, INC. IN SEPTEMBER 2018 (WESTON & SAMPSON ENGINEERS, INC. 5 CENTENNIAL DRIVE, PEABODY, MA 01960, TEL: 978 532 1900), AND AS-BUILT GRADES FROM THE PREVIOUS PROJECT PHASE.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE EXISTING CONDITIONS SHOWN ON THESE PLANS FROM THE AS-BUILT INFORMATION OF THE PREVIOUS PROJECT PHASE SHOULD NOT BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL THOROUGHLY REVIEW THE EXISTING CONDITIONS AS THEY RELATE TO THESE SITE PLAN DRAWINGS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
- BEARINGS REFER TO THE MASSACHUSETTS NAD 83 STATE PLANE COORDINATE SYSTEM (MAINLAND ZONE).
- ELEVATIONS REFER TO THE 1988 NORTH AMERICAN DATUM (NAVD 88).
- REFERENCE IS MADE TO THE FOLLOWING MAPS:
 - "PLAN OF BUILDING LOTS IN ARLINGTON MASS. BELONGING TO W.M. RICHARDSON", BY JOSIAH HOVEY, SCALE 1" =50', DATED JUNE 1869, RECORDED IN PLAN BOOK 86, PLAN 2 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "PLAN OF LOTS BELONGING TO GEORGIANNA HOBBS ARLINGTON, MASS.", BY JAMES ADAM, SCALE 1"=40', DATED FEBRUARY 1906, RECORDED IN PLAN BOOK 200, PLAN 37 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "SECTION 80 MILL BROOK VALLEY SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED JULY 1926.
 - "PLAN OF LAND IN ARLINGTON MASS.", BY C.H. GANNETT CO., SCALE 1" =30', DATED AUGUST 1927, RECORDED AS PLAN 979 OF 1931 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "PLAN OF LAND IN ARLINGTON MASS. TO BE TAKEN FOR PARK PURPOSES", BY JAMES M. KEANE, SCALE 1" =30', DATED FEB. 14, 1933, RECORDED AS PLAN 182 OF 1933 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "PLAN SHOWING LAND TO BE TRANSFERRED IN ARLINGTON MASS.", BY JAMES M. KEANE, SCALE 1" =30', DATED FEB. 14, 1933, RECORDED AS PLAN 38 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "DENNIS HURLEY PLAN OF LAND GROVE STREET ARLINGTON", BY RALPH ADAMS, SCALE 1" =20', DATED DEC. 9, 1933, RECORDED AS PLAN 20 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "SUBDIVISION OF LAND IN ARLINGTON MASS.", BY JOS. J. SULLIVAN, SCALE 1"=20', DATED MAY 1976, RECORDED AS PLAN 761 OF 1946 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "SUBDIVISION OF LAND IN ARLINGTON MASS", BY T.F. GEARY, SCALE 1" =20', DATED OCT. 30, 1947, RECORDED AS PLAN 449 OF 1949 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - LAND COURT PLAN 20878A DATED OCTOBER 1947.
 - LAND COURT PLAN 22019A DATED SEPTEMBER 1949.
 - "PLAN OF THE RELOCATION OF GROVE STREET ARLINGTON AS ORDERED BY THE COUNTY COMMISSIONERS", SCALE 1" =40', DATED 1964, RECORDED AS PLAN 133 OF 1964 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "SECTION 92 MILL BROOK VALLEY RELIEF SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED MAY 1966.
 - "THE COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION SEWERAGE DIVISION PLAN OF LAND IN ARLINGTON", SCALE 1"=40', DATED MAY 1966, RECORDED AS PLAN 281 OF 1967 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "PLAN OF LAND IN ARLINGTON MASS.", BY CURLEY & HANSEN, SCALE 1" =20', DATED MAY 29, 1971, RECORDED AS PLAN 657 OF 1971 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - LAND COURT PLAN 4481B DATED APRIL 26, 1969.
 - "PLAN OF LAND IN ARLINGTON MASS. SHOWING SEWER & WATER EASEMENT", BY R.L. HIGGINS, SCALE 1" =40', DATED JAN. 1973, RECORDED AS PLAN 65 OF 1973 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "PLAN OF LAND IN ARLINGTON MASS.", BY HAYES ENGINEERING INC., SCALE 1"=30', DATED JANUARY 31, 1983, RECORDED AS PLAN 144 OF 1983 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - "PLAN OF LAND IN ARLINGTON MA. PREPARED FOR ROSE-MAL HERITAGE REALTY TRUST", BY DAVID D. LANATA & ASSOC., INC., SCALE 1" =20', DATED JUNE 24, 1987, RECORDED AS PLAN 1185 OF 1987 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
 - LAND COURT PLAN 4481C DATED OCTOBER 11, 2001.
 - "SITE PLAN 19 PRENTISS ROAD ARLINGTON MA. 02147", BY PFS LAND SURVEYING, INC., SCALE 1" =10', DATED 12/24/2013, RECORDED AS PLAN 473 OF 2014 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
- THE PROPERTY IS TOGETHER WITH AND SUBJECT TO SUCH EASEMENTS AND RIGHTS OF RECORD AS MAY APPEAR.
- UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO WESTON & SAMPSON. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG.

Client/Owner:



Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH

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Stamp:



Project:

WELLINGTON PARK & MILL BROOK CORRIDOR
REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK - ARLINGTON, MA
75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00

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Revisions

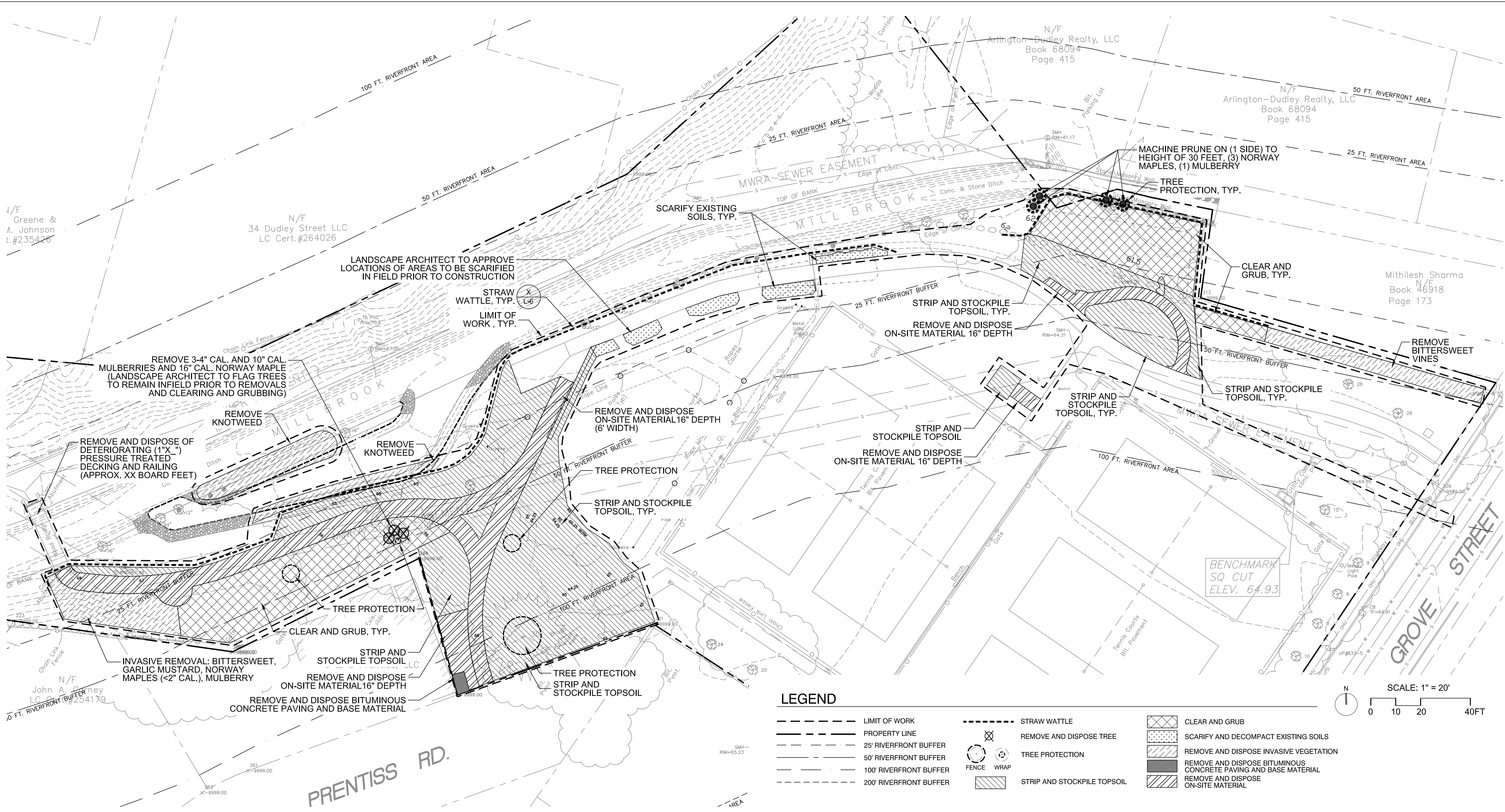
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Sheet Title:

EXISTING CONDITIONS

Sheet No:

EC-1



SITE PREPARATION, DEMOLITION AND EROSION CONTROL NOTES

- THE CONTRACTOR IS CAUTIONED THAT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS SHOWN ON THESE PLANS, IS BASED ON SITE SURVEY AND FIELD MEASUREMENTS. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD. CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES AND THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTIONS TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
- MATERIAL RESULTING FROM THE DEMOLITION OF ANY EXISTING STRUCTURE SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE REGULATIONS. THE CONTRACTOR SHALL NOT BURY OR ALLOW TO BURY SUCH MATERIAL. THIS INCLUDES FENCING, EXISTING STRUCTURES, TREE STUMPS, ETC.
- ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER

- APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE, OR DIRECTED BY THE LANDSCAPE ARCHITECT.
- LANDSCAPE ARCHITECT SHALL VERIFY TREES & STUMPS TO BE REMOVED IN THE FIELD PRIOR TO REMOVAL.
- POISON IVY AND INVASIVE PLANTS ON SITE THAT ARE TO BE REMOVED SHALL BE CONFIRMED BY THE LANDSCAPE ARCHITECT.
- PROTECT ALL LIGHT FIXTURES AND SITE AMENITIES UNLESS NOTED OTHERWISE.

SITE PREPARATION AND EROSION CONTROL NOTES

- PROTECT ALL EXISTING STRUCTURES TO REMAIN.
- PROPERTY LINE, EXISTING UTILITY INFORMATION AND TOPOGRAPHY TAKEN FROM THE PLAN PREPARED BY NITSCH ENGINEERING, INC.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT UPON INSTALLATION FOR APPROVAL. ALL MEASURES SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN

- IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.
- STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED HAY BALES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.
- ALL DISTURBED OR EXPOSED AREAS SUBJECT TO EROSION SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER. NO AREA, SUBJECT TO EROSION, SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR PERIODS LONGER THAN IS ABSOLUTELY NECESSARY TO CARRY OUT THAT PORTION OF THE CONSTRUCTION WORK.
- INSPECTION SHALL TAKE PLACE AFTER EACH RAINFALL EVENT. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED, CLEANED, AND REPAIRED OR REPLACED, AS NECESSARY, THROUGHOUT CONSTRUCTION.
- THE LOCATION OF STRAWBALE CHECK DAMS SHALL BE FIELD VERIFIED DURING SITE PREPARATION OPERATIONS BY THE LANDSCAPE ARCHITECT OR ENGINEER.
- ALL PROPOSED SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH EROSION CONTROL MAT AND PROTECTED FROM EROSION.

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION MWRA FEES REQUIRED TO CARRY OUT THE WORK INCLUDING, BUT NOT LIMITED TO, DEMOLITION, SITE CONSTRUCTION, ELECTRICAL, STORM AND WATER UTILITIES.
- SALVAGE ALL EXISTING SITE FURNISHINGS UNLESS NOTED OTHERWISE. IF FURNISHING IS IN CONFLICT WITH PROPOSED WORK, CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY.
- THE AREA, OR AREAS, OF ENTRANCE AND EXIT, TO AND FROM THE SITE, SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO A PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
- FINAL TREE PROTECTION FENCE LOCATIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION ACTIVITY AS DIRECTED BY THE LANDSCAPE ARCHITECT AND MAY DIFFER FROM CONSTRUCTION DOCUMENTS.
- SEE PLANS FOR TREE PROTECTION AND CLEARING LIMITS.

Client/Owner:

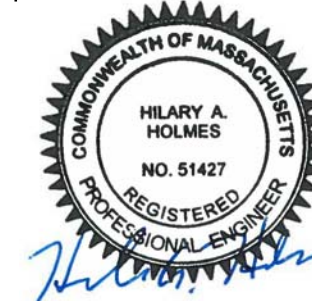


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Project:

**WELLINGTON PARK & MILL BROOK CORRIDOR
REVITALIZATION PROJECT: PHASE 3**

WELLINGTON PARK - ARLINGTON, MA
75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00

Hatch Project Number: H-362472

Date: September 17, 2020

Drawn By: AK, AG

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Reviewed By: DB

Scale: As shown

Revisions

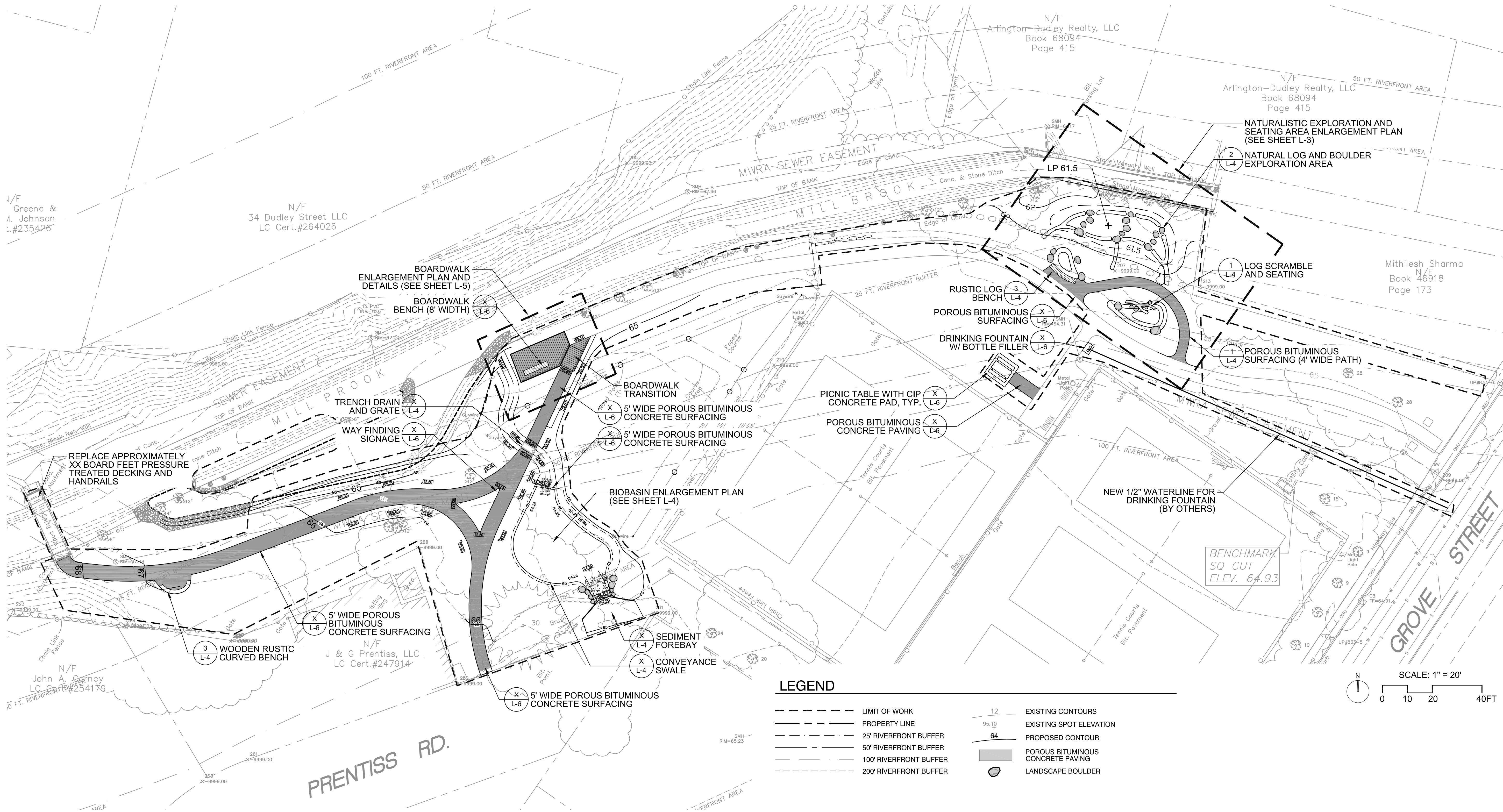
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Sheet Title:

**SITE PREPARATION
PLAN**

Sheet No:

SP-1



LAYOUT AND MATERIAL NOTES:

- ALL LAYOUT LINES, OFFSETS OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
- ALL PROPOSED SITE IMPROVEMENTS SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION BY THE LANDSCAPE ARCHITECT. ANY REQUIRED ADJUSTMENTS SHALL BE UNDERTAKEN AT NO ADDITIONAL COST TO THE OWNER.
- REFER TO SP-1 FOR SITE PREPARATION, DEMOLITION AND EROSION CONTROL LAYOUT.
- PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK INDICATED IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL VERIFY THE PATHWAY BASELINE SHOWN IS CONSISTENT WITH THE EXISTING PATHWAY ALIGNMENT INDICATED WITHIN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE TWO.

GRADING AND DRAINAGE NOTES

- THE CONTRACTOR SHALL VERIFY ALL GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES BETWEEN PROPOSED AND EXISTING IMMEDIATELY TO THE LANDSCAPE ARCHITECT.
- ALL PROPOSED PAVEMENTS SHALL SMOOTHLY MEET THE LINE, GRADE AND EDGES OF EXISTING ADJACENT PAVEMENT SURFACES AS WELL THE TOP OF RAMPS AND BACK OF CURBS.
- WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND THE GRADES SMOOTHLY, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES, AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES.
- CONTRACTOR SHALL ENSURE ALL AREAS PROPERLY PITCH TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION DRAWINGS.
- ALL NEW WALKWAY / ACCESS PATH GRADING MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA), AND MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF (1.5%) PERCENT AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 4.5% MAX. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNERS REPRESENTATIVE PRIOR TO CONTINUING WORK.

- ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
- EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- GRADES ABOVE THE SEWER EASEMENT SHALL NOT CHANGE UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION DOCUMENTS.
- THE CONTRACTOR IS CAUTIONED THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS SHOWN ON THESE PLANS, IS BASED ON THE EXISTING SURVEY. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, AND ANY GOVERNING PERMITTING AUTHORITY, AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK

TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES AND THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTIONS TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY FOR THE WORK.

Client/Owner:

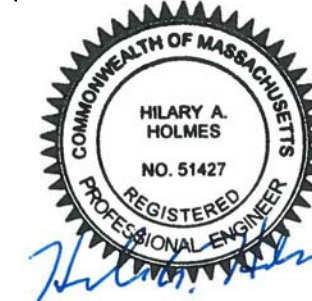


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Project:

WELLINGTON PARK & MILL BROOK CORRIDOR
REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK - ARLINGTON, MA
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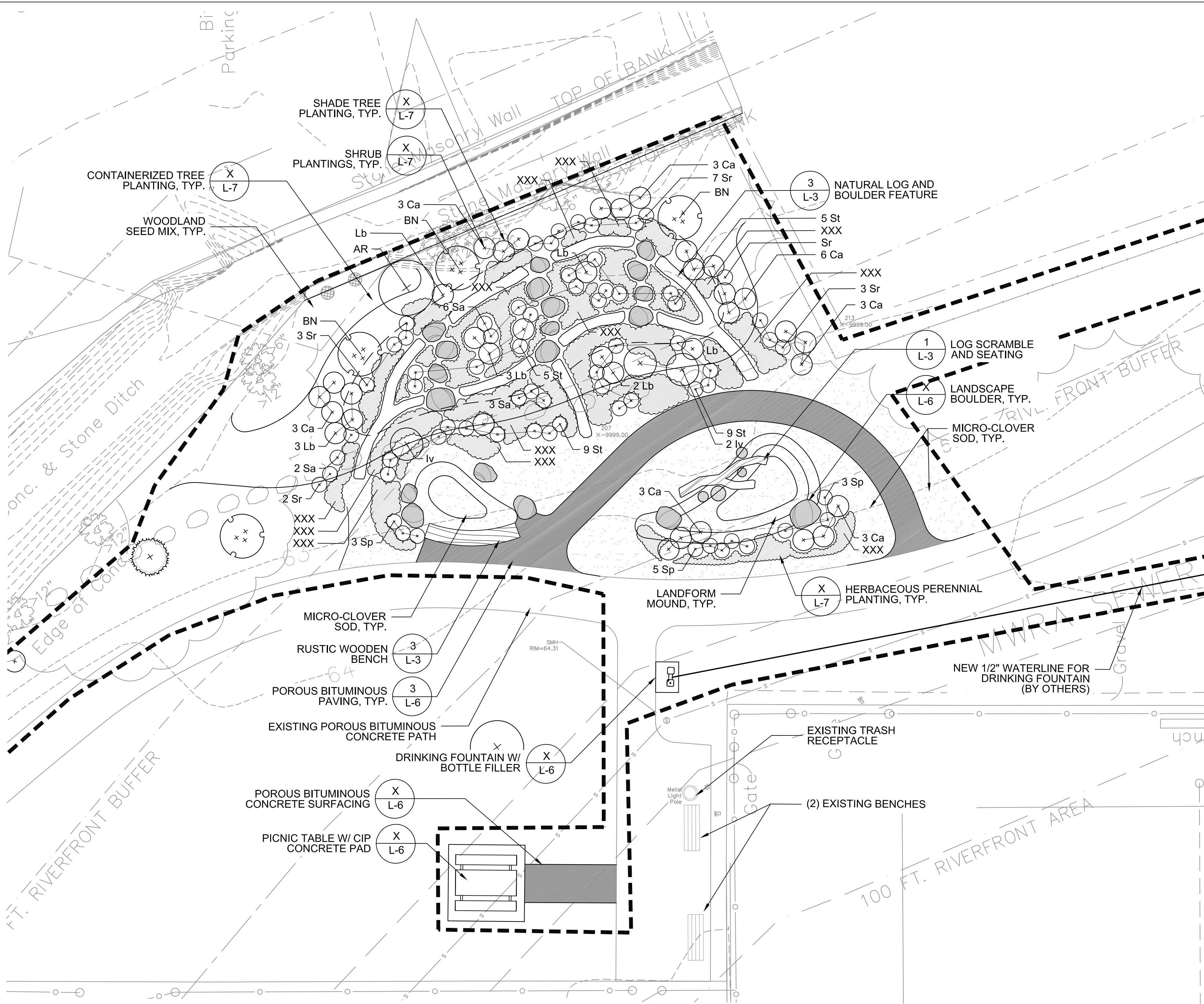
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SITE PLAN

Sheet No:

L-1



NOTES:

1. FINAL LOCATIONS OF ALL SITE FURNISHINGS SHALL BE APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO THOROUGHLY REVIEW THESE SITE PLAN DRAWINGS AND NOTIFY THE PLAN PREPARERS OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
3. SEE SHEET L-1 FOR LAYOUT, MATERIAL, GRADING AND DRAINAGE NOTES.
4. SEE SHEET L-2 FOR PLANTING NOTES.
5. SEE SHEET L-7 FOR PLANT SCHEDULE.

LEGEND

---	LIMIT OF WORK
---	PROPERTY LINE
---	25' RIVERFRONT BUFFER
---	50' RIVERFRONT BUFFER
---	100' RIVERFRONT BUFFER
---	200' RIVERFRONT BUFFER
---	EXISTING CONTOURS
---	EXISTING SPOT ELEVATION
---	PROPOSED SPOT ELEVATION
---	PROPOSED CONTOUR
---	PROPOSED SLOPE



3 RUSTIC WOODEN BENCH
SCALE: NTS



2 NATURAL LOG AND BOULDER FEATURE
SCALE: NTS



1 LOG SCRAMBLE AND SEATING
SCALE: NTS

Client/Owner:



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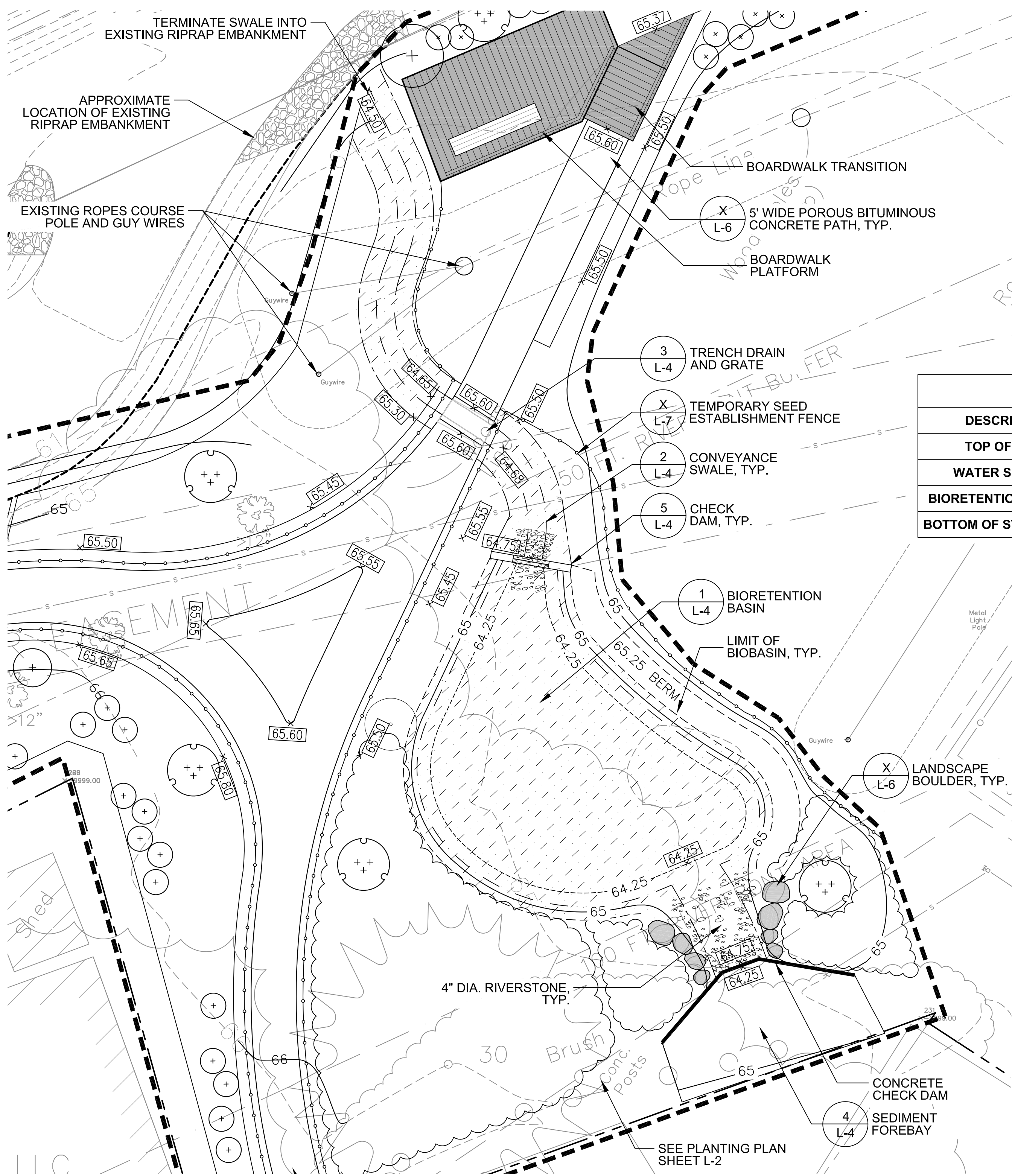
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EXPLORATION AREA
ENLARGEMENT PLAN

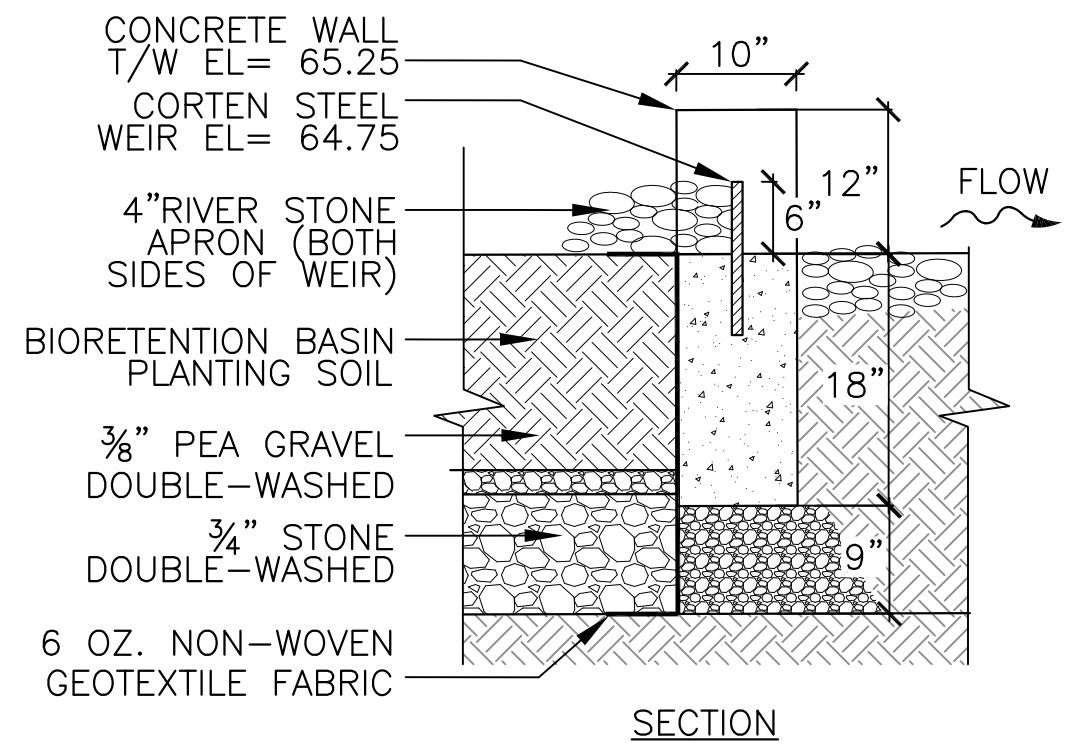
Sheet No:

L-3

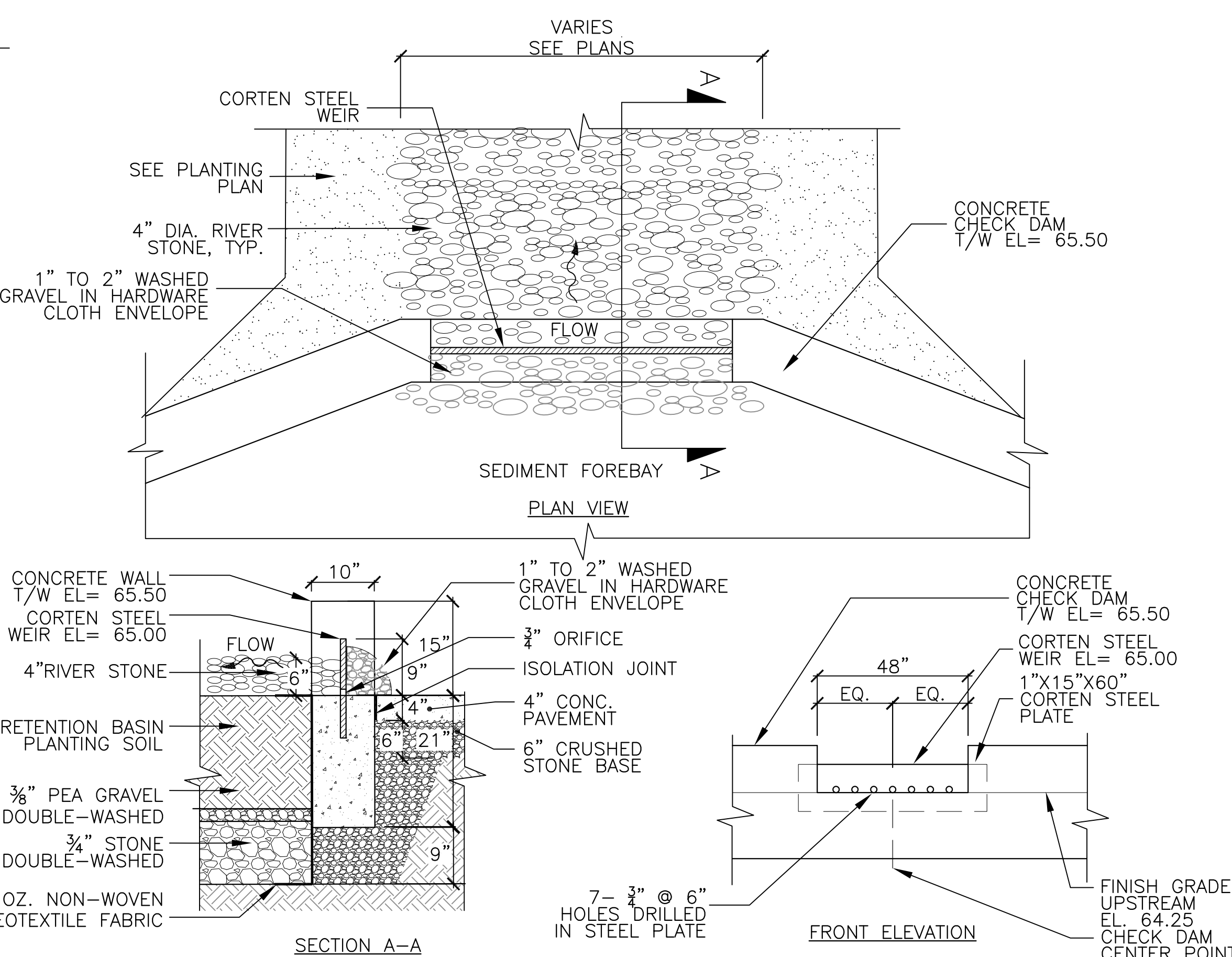
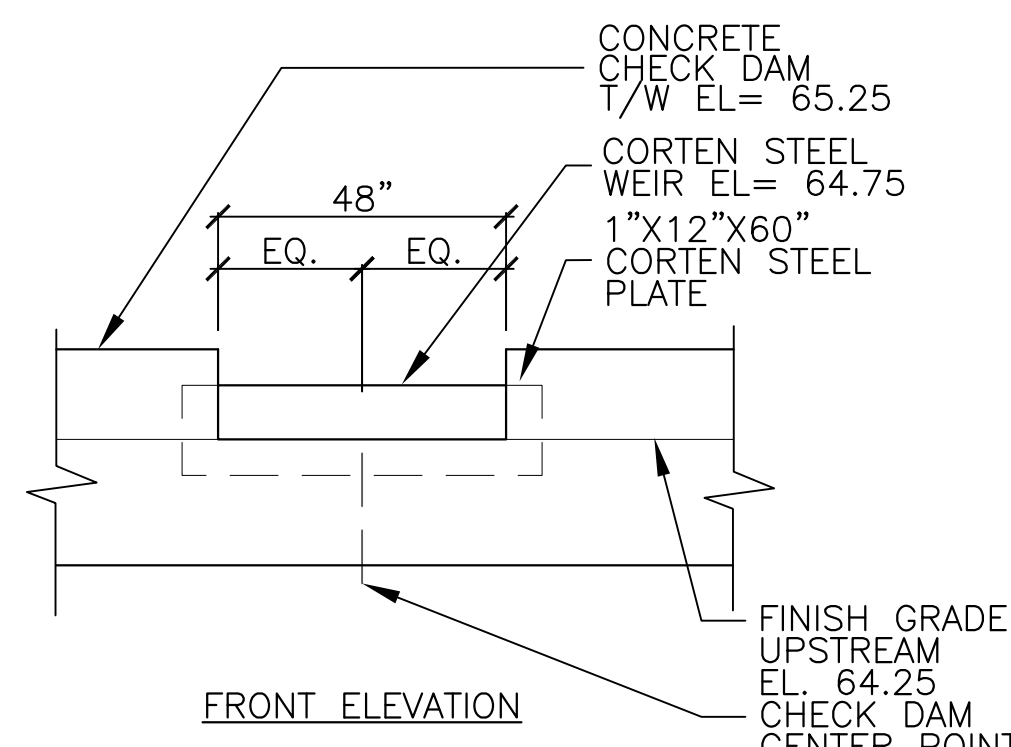


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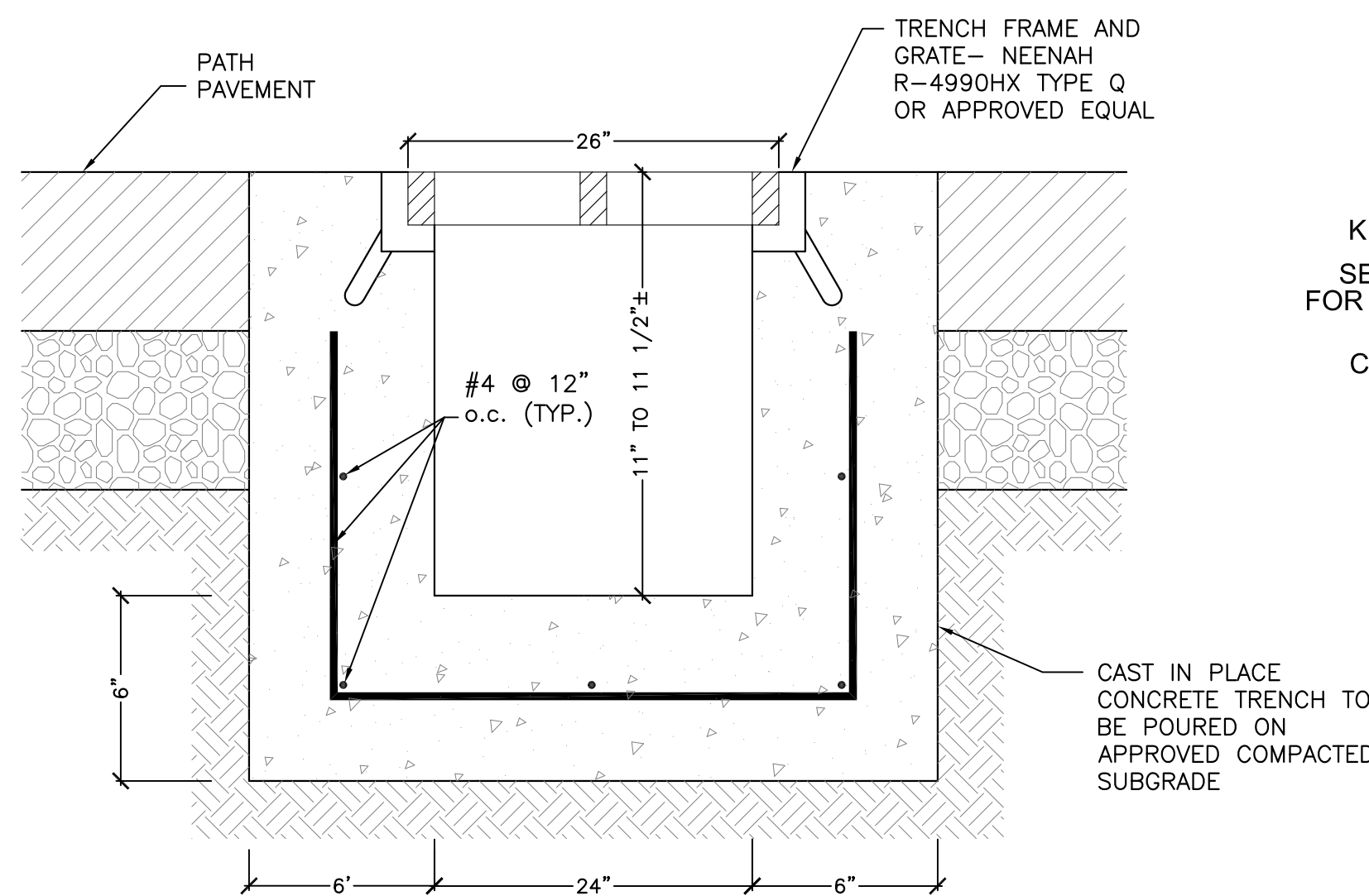
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE EXISTING CONDITIONS SHOWN ON THESE PLANS IS BASED ON ON A SURVEY COMBINED WITH AS-BUILT INFORMATION FROM THE PREVIOUS PROJECT PHASE. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL THOROUGHLY REVIEW THE EXISTING CONDITIONS AS THEY RELATE TO THESE SITE PLAN DRAWINGS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
2. COORDINATE ALL GRADING AND PIPED CONNECTIONS WITH GRADING & DRAINAGE PLAN L-2.
3. CONTRACTOR SHALL STAKE LIMITS OF BIORETENTION BASIN AND SWALE IN FIELD FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO START OF CONSTRUCTION.
4. SEE SHEET L-10 FOR PLANT SCHEDULE.
5. CONTRACTOR SHALL SUPPLY ALL PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING PLAN AS SHOWN ON DRAWINGS.
6. NO PLANT MATERIAL SHALL BE PLANTED BEFORE ACCEPTANCE OF FINAL GRADING BY LANDSCAPE ARCHITECT.
7. WATERING OF INSTALLED PLANTS SHALL OCCUR WITHIN 24 HOURS OF THE FIRST DAY OF PLANTING OR SEEDING AND CONTINUE AS OUTLINED IN THE CONTRACT DOCUMENTS.



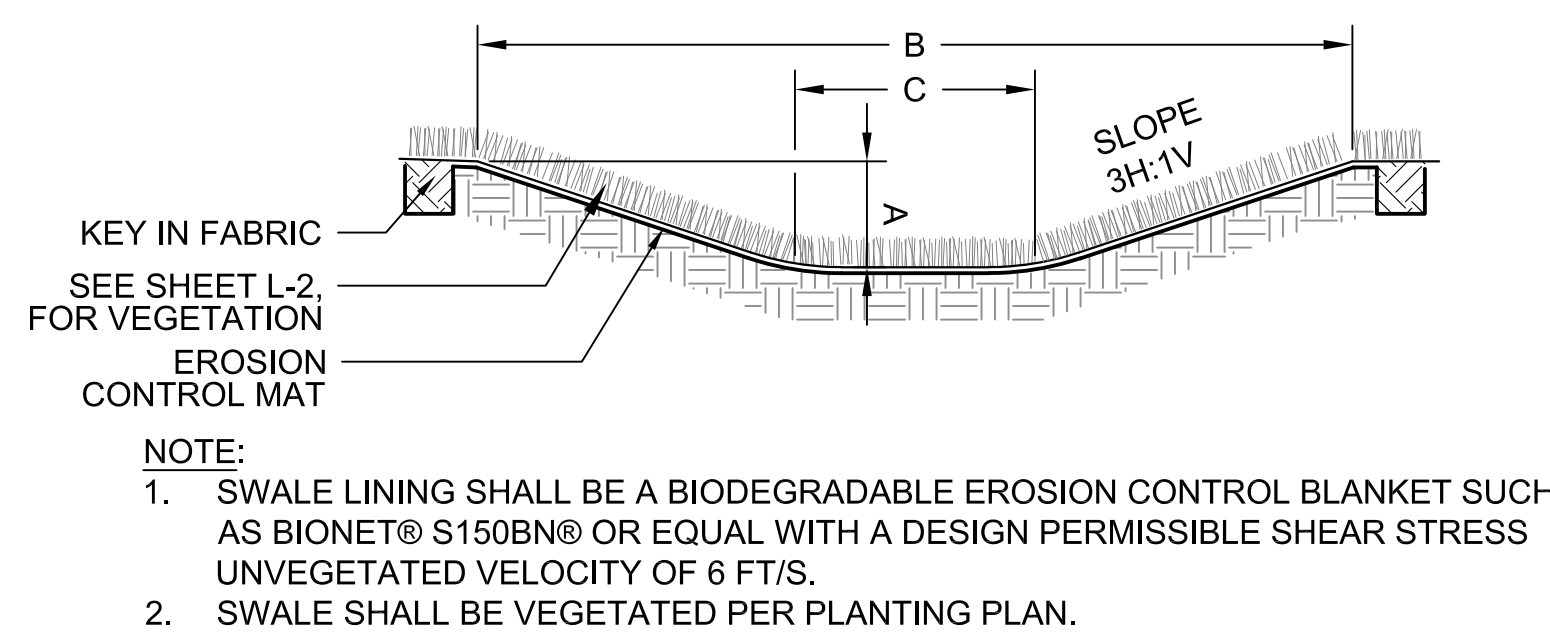
5 CHECK DAM SCALE: NTS



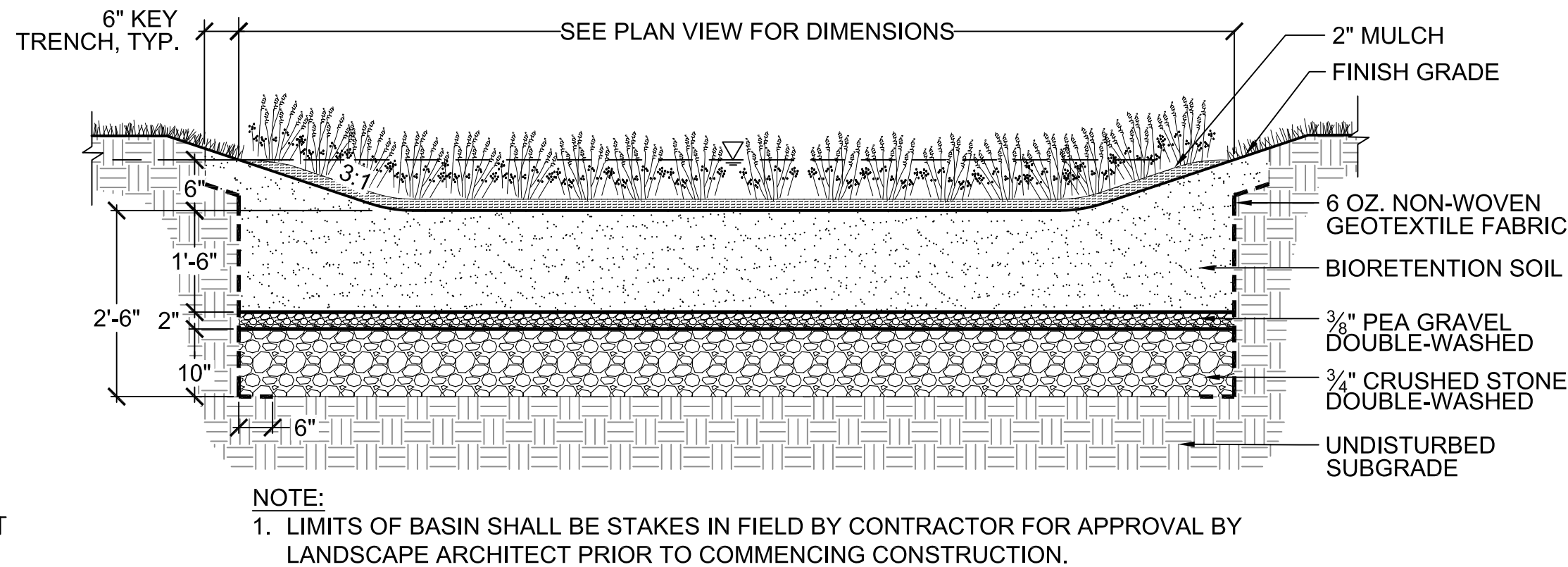
4 SEDIMENT FOREBAY SCALE: NTS



3 TRENCH DRAIN AND GRATE SCALE: NTS



2 CONVEYANCE SWALE SCALE: NTS



1 BIORETENTION BASIN SCALE: NTS

Client/Owner:

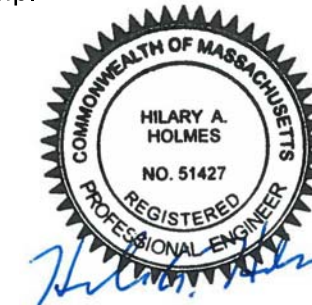


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Project:

WELLINGTON PARK & MILL BROOK CORRIDOR
REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK - ARLINGTON, MA

75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00

Hatch Project Number: H-362472

Date: September 17, 2020

Drawn By: AK, AG

Designed By: EA, AK

Reviewed By: DB

Scale: As shown

Revisions

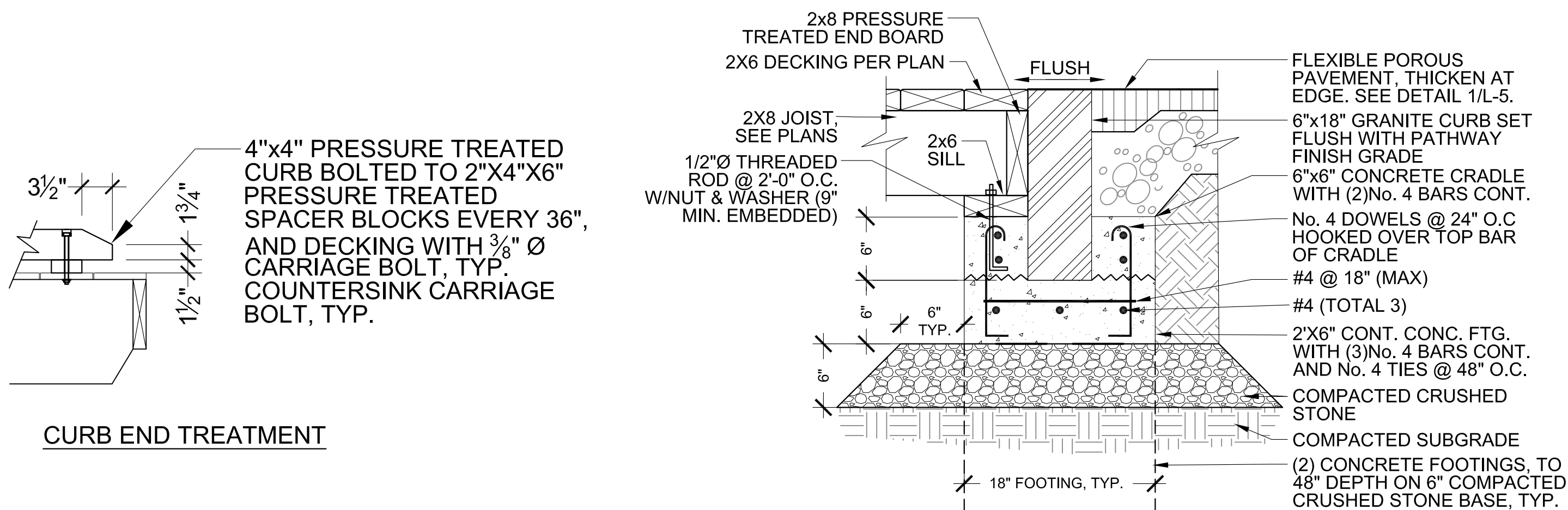
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Sheet Title:

BIORETENTION BASIN
AND SWALE
ENLARGEMENT PLAN

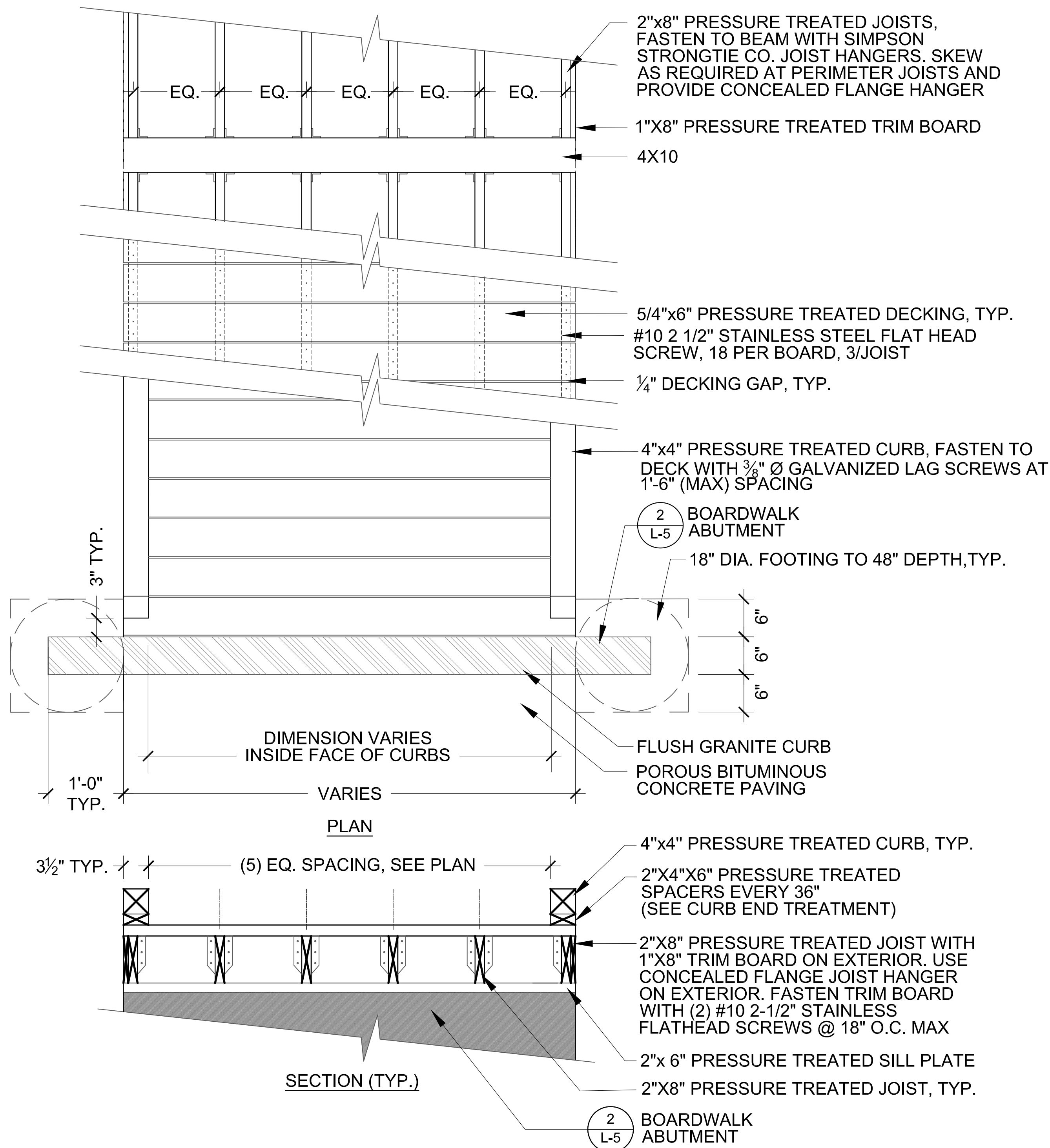
Sheet No:

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2 BOARDWALK ABUTMENT

SCALE: NTS



1 BOARDWALK STRUCTURE

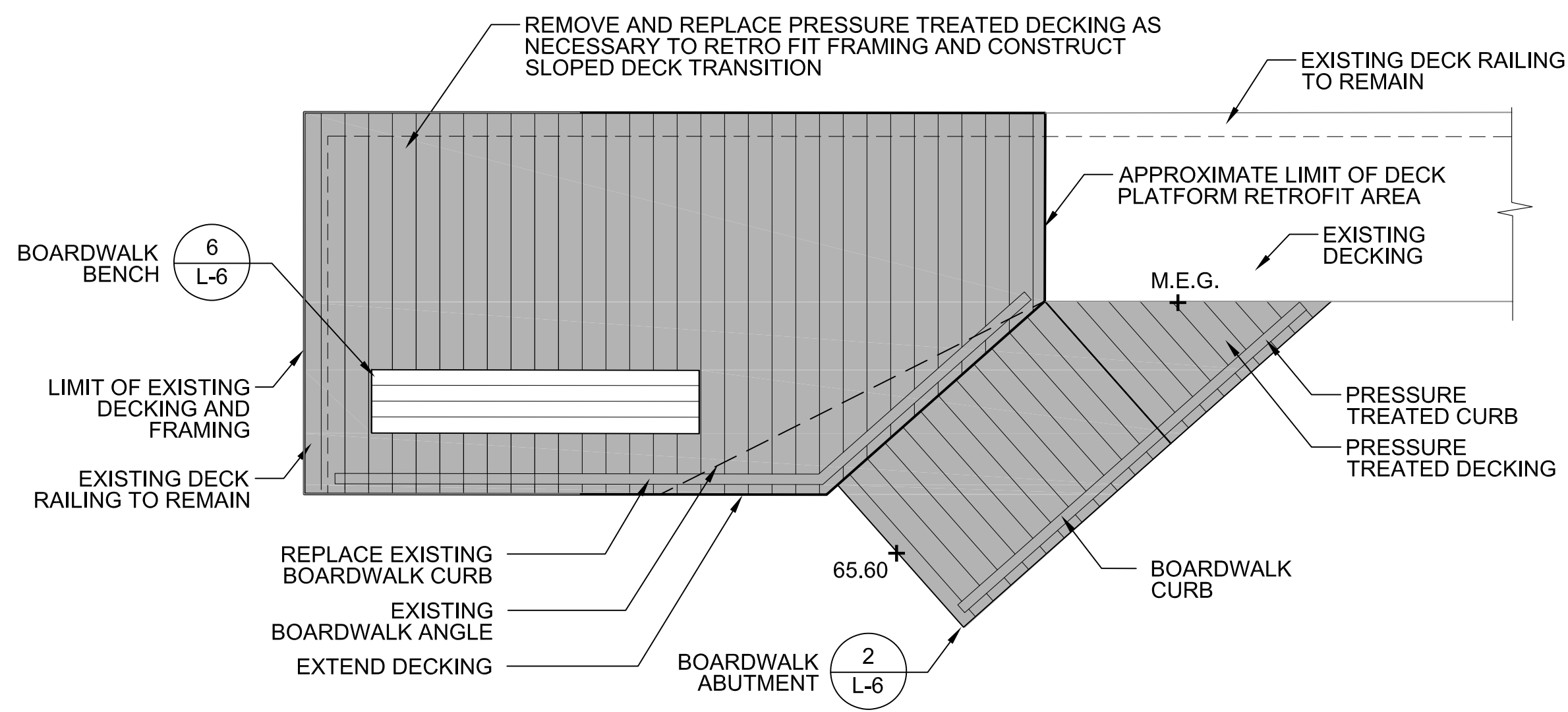
SCALE: NTS

GENERAL NOTES:

- CAST-IN-PLACE CONCRETE WORK SHALL CONFORM TO THE LATEST AMERICAN CONCRETE INSTITUTE (ACI) CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, ACI 301, 315, AND 318. COLD WEATHER CONCRETING AS DEFINED BY ACI, SHALL BE IN ACCORDANCE WITH ACI 306R.
- CONCRETE MIX SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT. PER ACI-318, AT A MINIMUM CONCRETE SHALL MEET THE FOLLOWING CRITERIA:
 - MAXIMUM WATER TO CEMENT RATIO: 0.45
 - MINIMUM COMPRESSIVE STRENGTH: 4,500 PSI
 - AIR CONTENT PERCENT*: 5.0 %

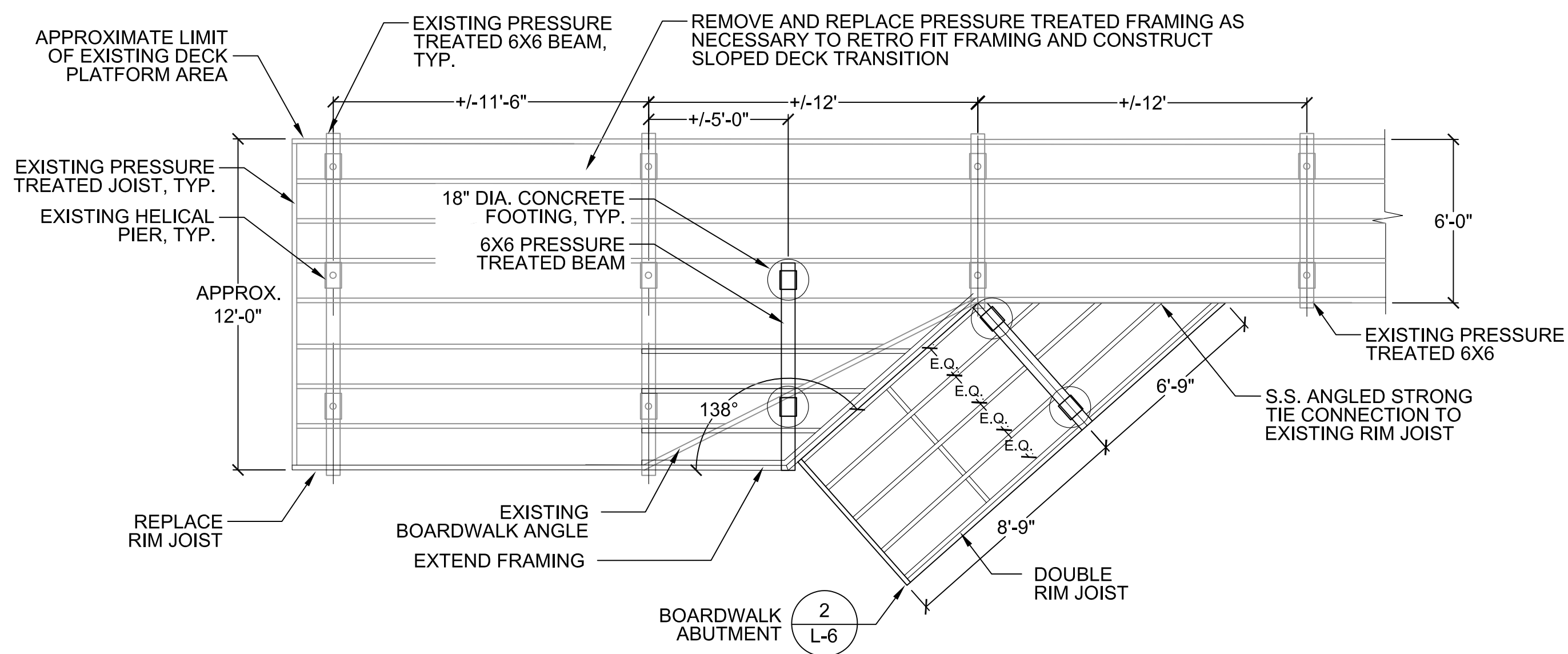
*ASSUMING NOMINAL MAXIMUM AGGREGATE SIZE OF 3/4". ADJUST AIR CONTENT PER ACI TABLE 4.4.1 IS VARIES
- ALL REINFORCING STEEL SHALL BE CONTINUOUS NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. EMBEDDED ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GR. 36.
- GRANITE CURB SHALL CONFORM TO THE REQUIREMENTS OF MASSDOT STANDARD SPECIFICATION FOR HIGHWAYS AND BRIDGES M9.04.1 TYPE VA5. EACH CURB PIECE FOR EACH ABUTMENT SHALL BE OF SUFFICIENT LENGTH TO COVER THE ENTIRE WIDTH OF THE ELEVATED WALKWAY. ONLY 1 PIECE OF GRANITE SHALL BE USED FOR EACH ELEVATED WALKWAY ABUTMENT.

- ALL TIMBER HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL WHERE EXPOSED. JOIST HANGERS AND HARDWARE SHALL BE GALVANIZED. PROVIDE CONCEALED FLANGE JOIST HANGERS WHERE REQUIRED.
- PRESSURE TREATED 2X8 BLOCKING SHALL BE INSTALLED AS REQUIRED FOR INSTALLATION OF RAILING POSTS AND TYPICALLY IN A STAGGERED PATTERN AT THE MID-SPAN OF THE JOIST SPAN.
- 4X4 RAILING POST LOCATION MAY BE ADJUSTED AS REQUIRED TO ALLOW FOR INSTALLATION OF BLOCKING AND CONNECTION. RAILING POST SPACING SHALL NOT EXCEED 5'-0" O.C.
- DESIGN SERVICE AND STRENGTH LOADING IS PROVIDED IN TABLE 1 AND TABLE 2 OF DETAIL 1 ON THIS SHEET FOR THE DESIGN OF THE HELICAL ANCHORS.
- AXIAL AND HORIZONTAL LOADING SHALL ACT CONCURRENTLY FOR EACH LOAD CASE WHERE APPLICABLE.
- DECKING AND CURBS TO BE IPE AS SPECIFIED.
- JOISTS AND BEAMS TO BE PRESSURE TREATED.
- ALL WOOD DIMENSIONS ARE NOMINAL.
- CONNECTORS TO BE GALVANIZED SIMPSON-TIE OR APPROVED EQUAL.



2 BOARDWALK FRAMING PLAN

SCALE: NTS



1 BOARDWALK DECKING PLAN

SCALE: NTS

Client/Owner:



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Project:

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REVITALIZATION PROJECT: PHASE 3**

WELLINGTON PARK - ARLINGTON, MA

75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00

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Drawn By: AK, AG

Designed By: AK

Reviewed By: DB

Scale: As shown

Revisions

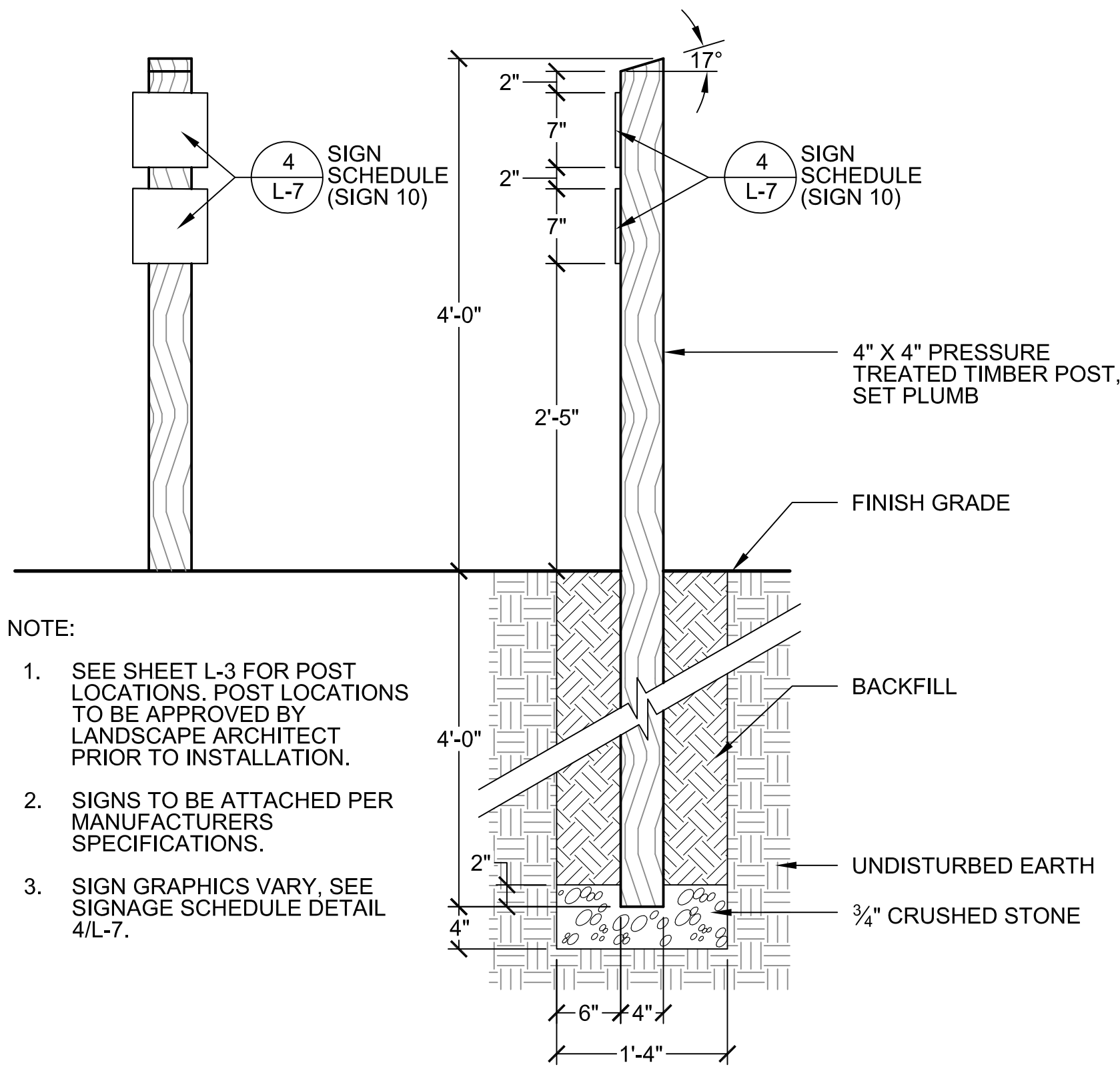
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Sheet Title:

**BOARDWALK
ENLARGEMENT PLAN
AND DETAILS**

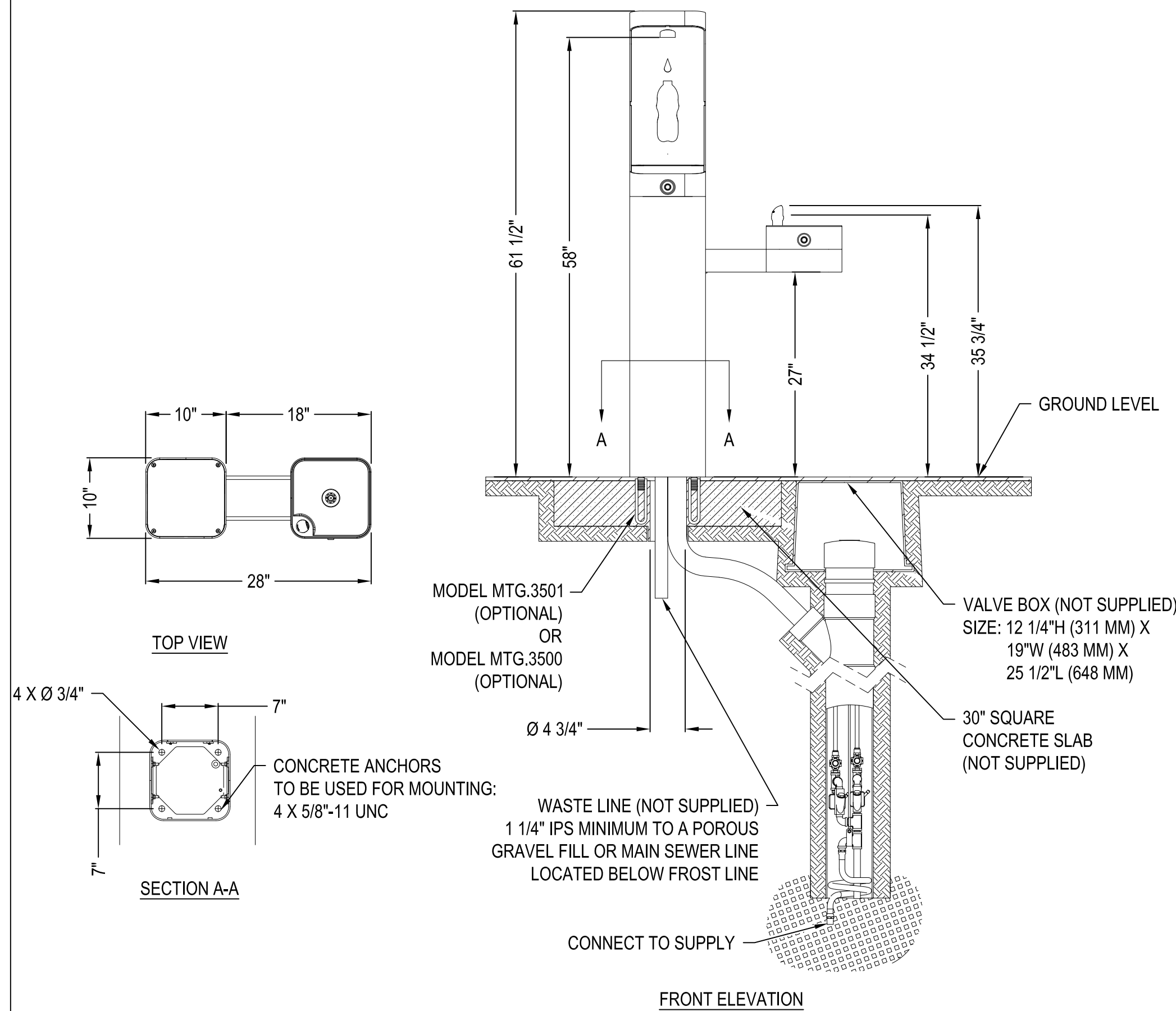
Sheet No:

L-5



8 WAYFINDING SIGNAGE

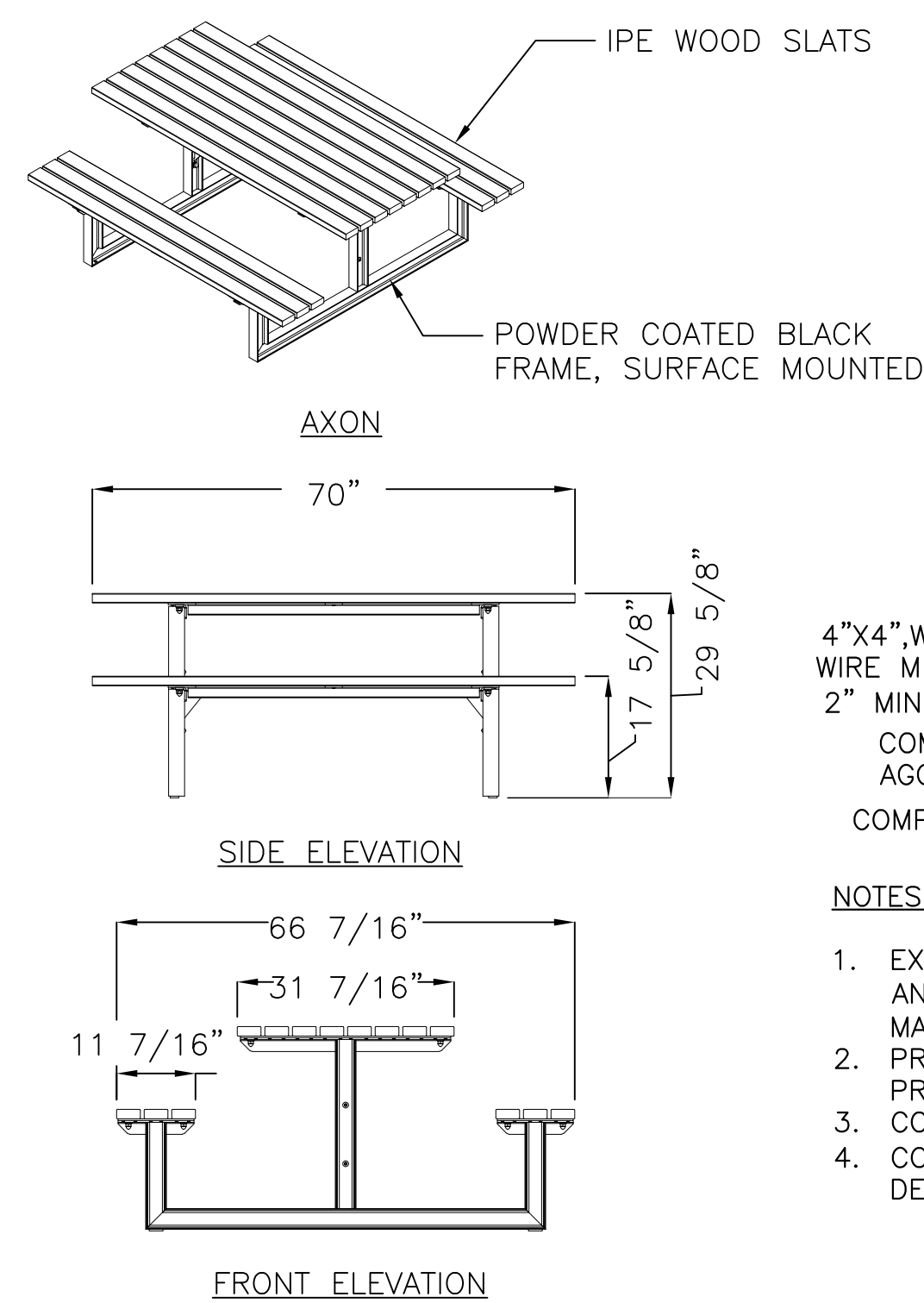
SCALE: NTS



- MANUFACTURER NOTES:
- FREEZE RESISTANT BOTTLE FILLER DRINKING FOUNTAIN SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PROCUREMENT.

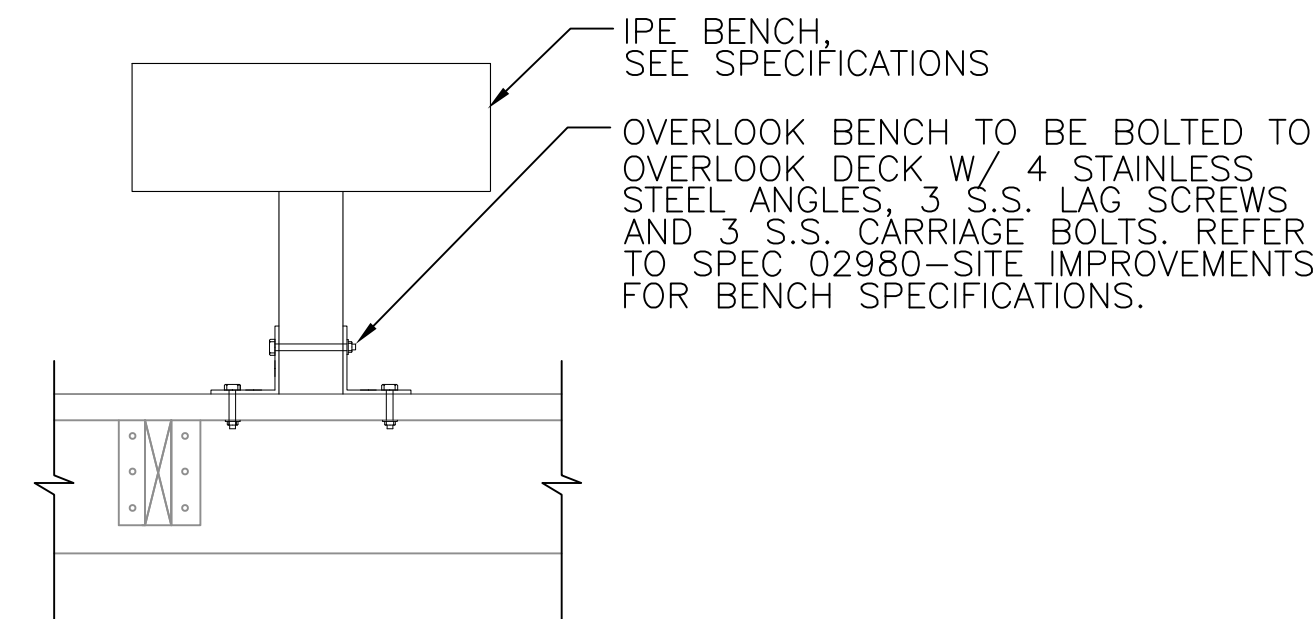
7 DRINKING FOUNTAIN WITH BOTTLE FILLER

SCALE: NTS



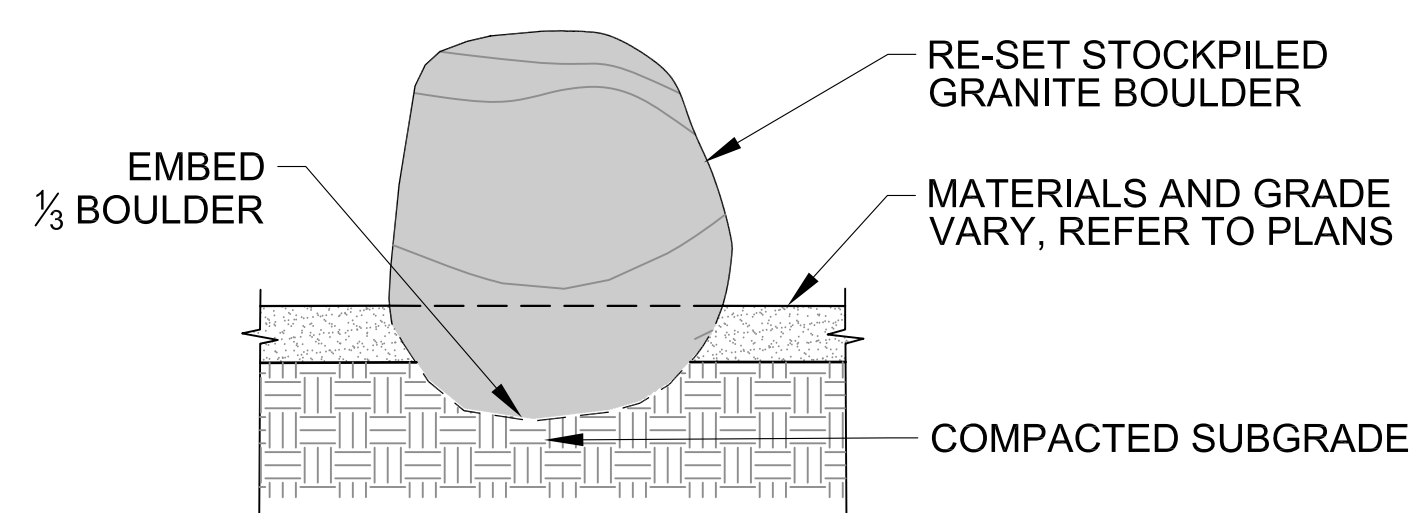
6 PICNIC TABLE WITH CONCRETE PAD

SCALE: NTS



5 BOARDWALK BENCH

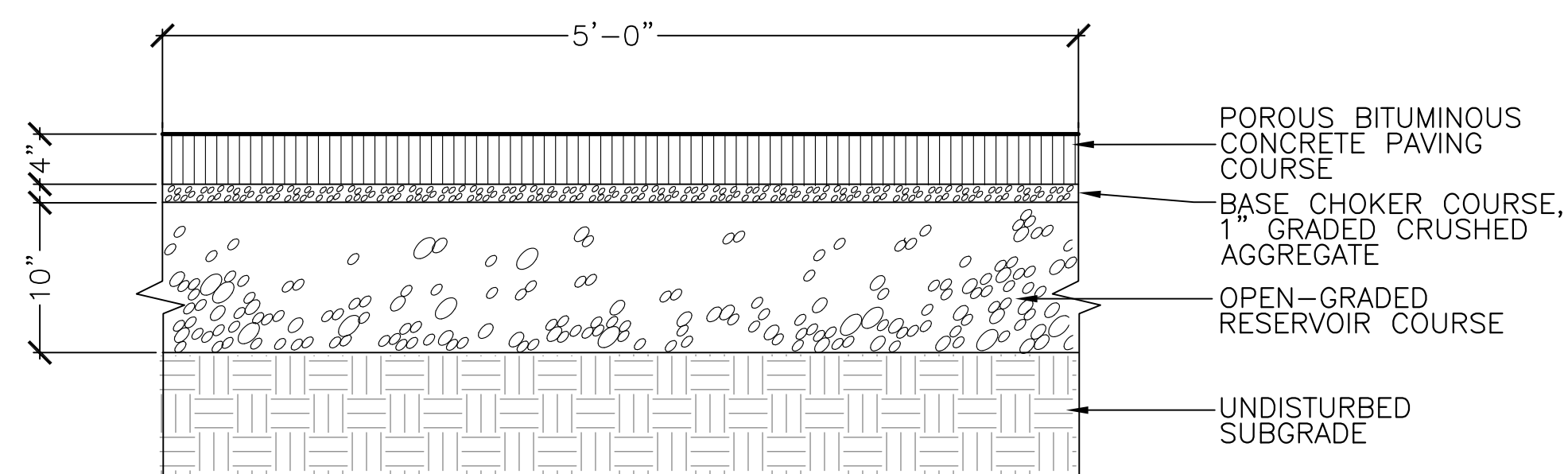
SCALE: NTS



- NOTES:
- RE-SET STOCKPILED GRANITE BOULDERS TO BE PLACED AT DIRECTION OF LANDSCAPE ARCHITECT.
 - EMBEDDED BOULDER DEPTH SHALL BE DETERMINED BY LANDSCAPE ARCHITECT IN FIELD.

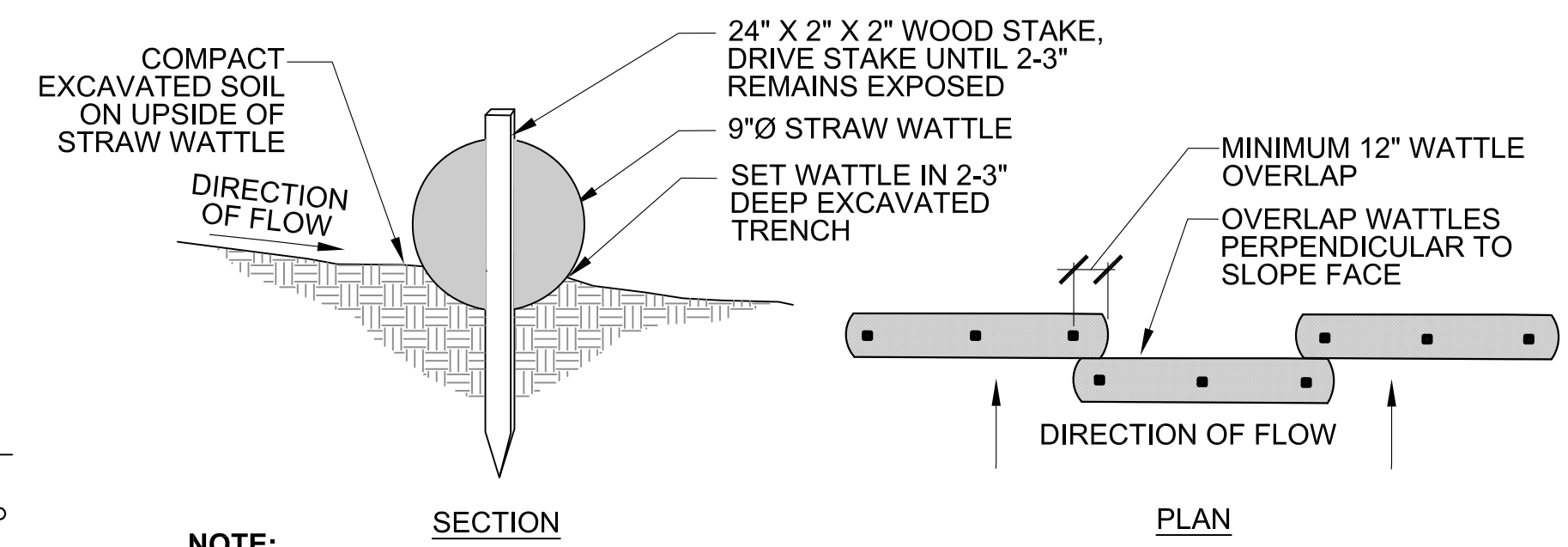
4 LANDSCAPE BOULDER

SCALE: NTS



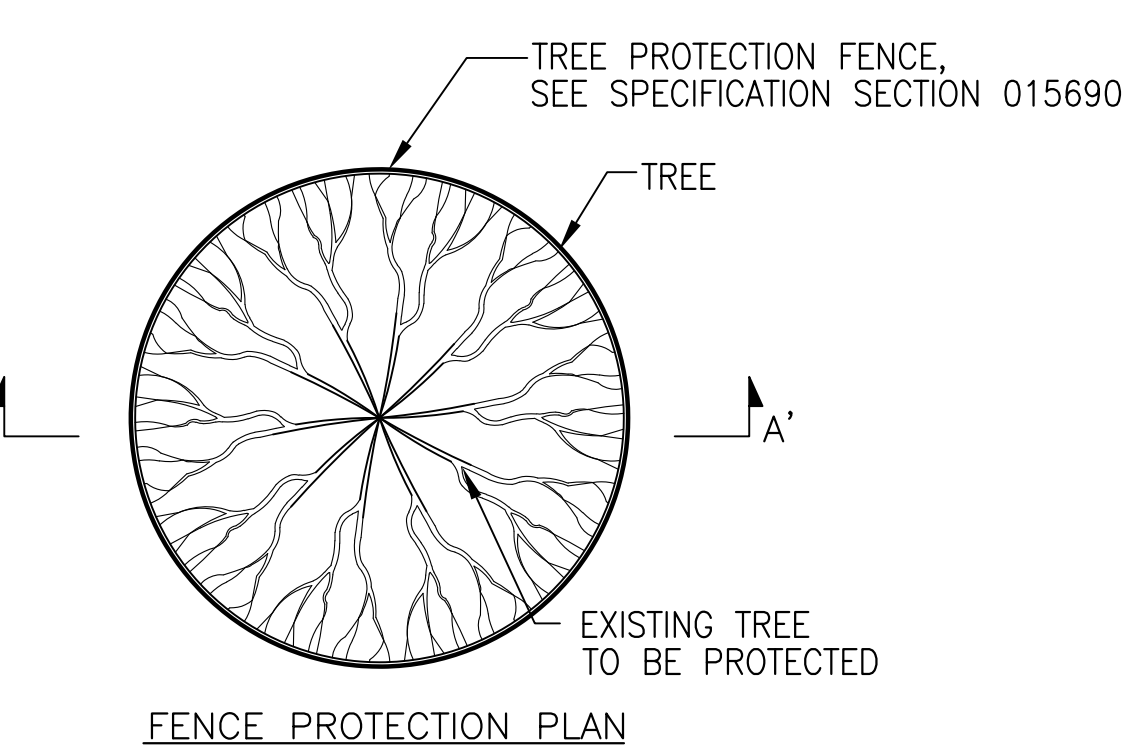
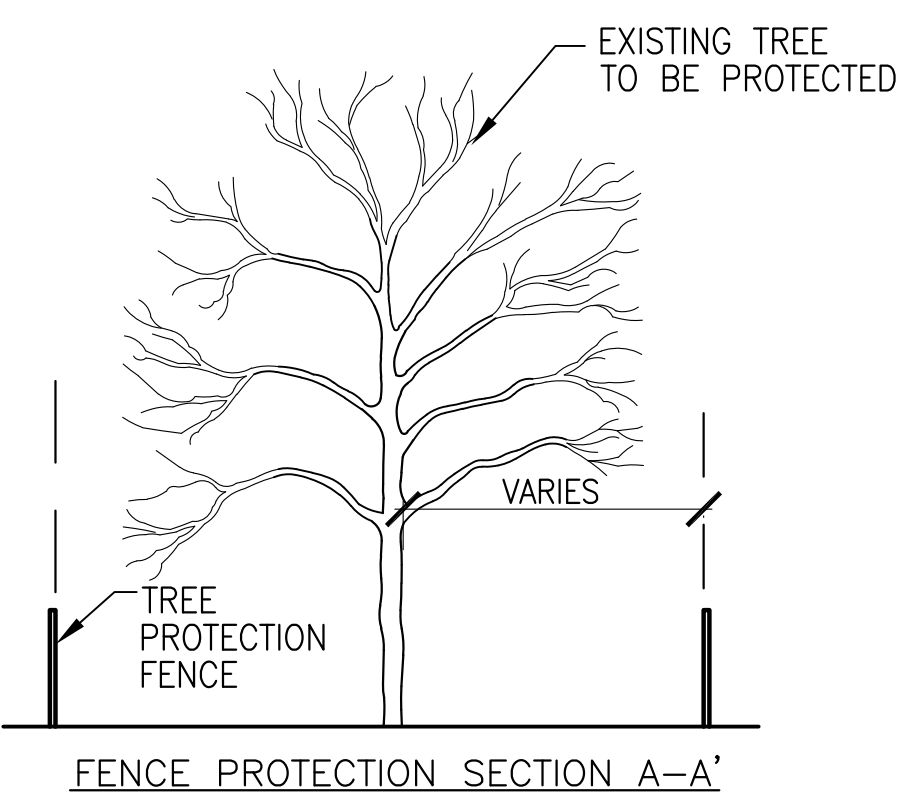
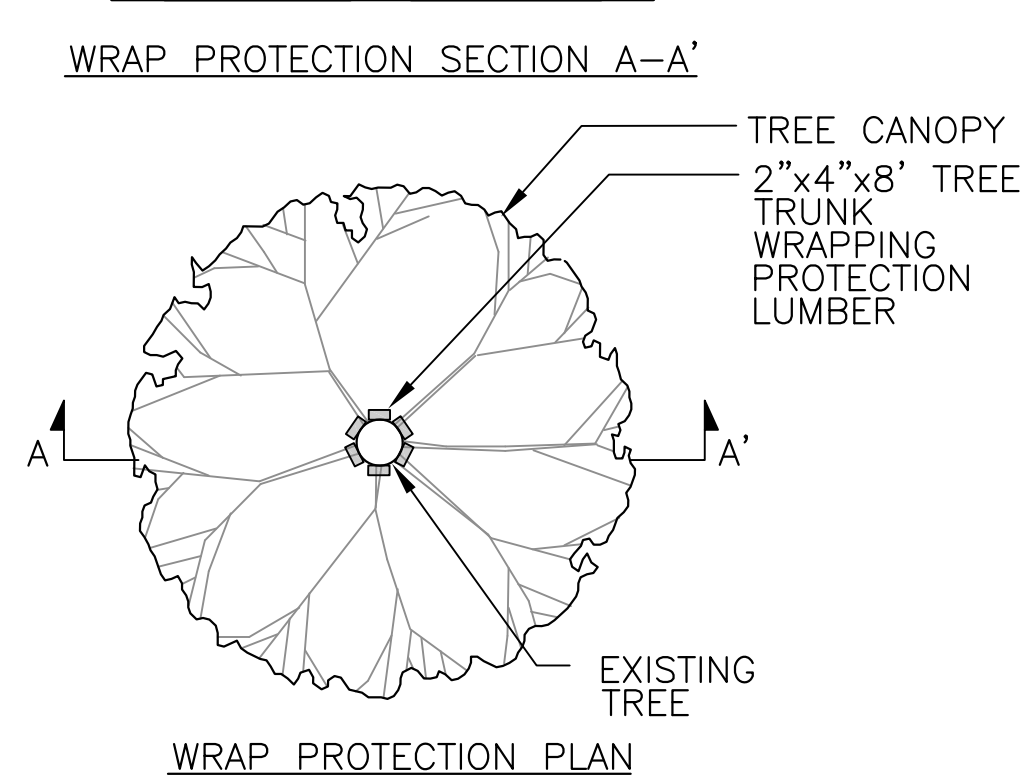
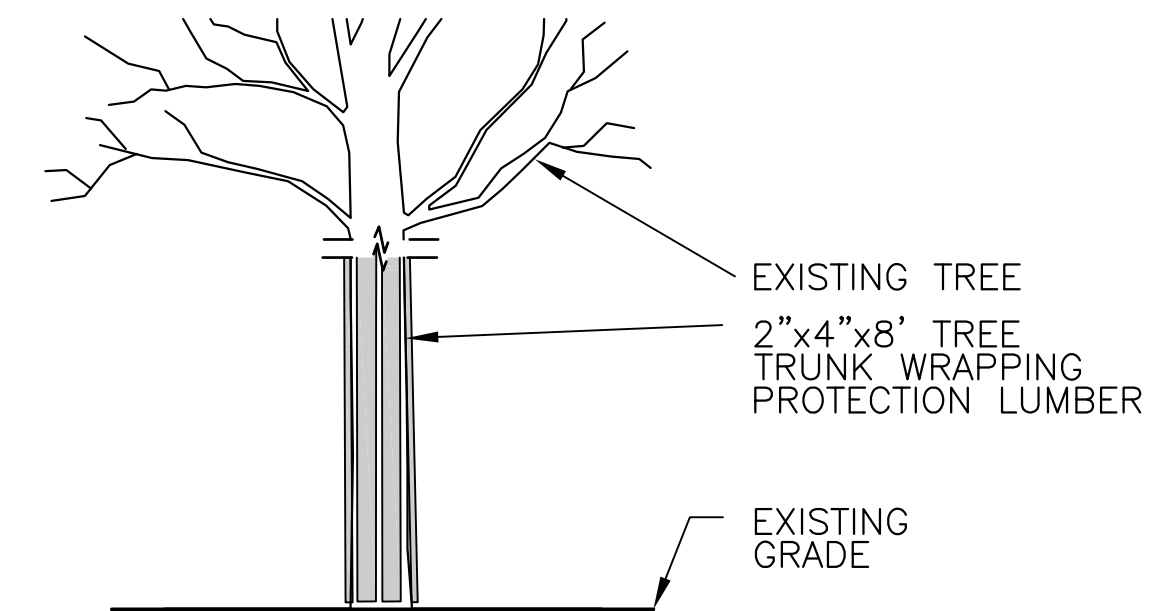
3 POROUS BITUMINOUS CONCRETE PAVING

SCALE: NTS



2 STRAW WATTLE

SCALE: NTS



- NOTE:
- ALL TREE PROTECTION SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES AND MAINTAINED IN GOOD CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.

1 TREE PROTECTION

SCALE: NTS

Client/Owner:

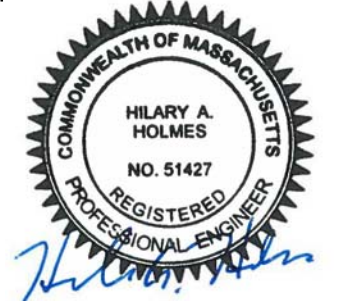


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REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK - ARLINGTON, MA
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Drawn By: AK, AG
Designed By:
Reviewed By: DB
Scale: As shown

Revisions
Number: Description: Date:

Sheet Title:

SITE DETAILS

Sheet No:

L-6

PLANT SCHEDULE - STRAIGHT NATIVE SPECIES ONLY

CANOPY TREES					
QTY.	ID	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
3	AR	Acer rubrum	Red Maple	2" CAL.	B&B
3	BN	Betula nigra	River birch	2" CAL.	B&B, MULTI-STEM
5	PS1	Pinus strobus	White pine	4' HT.	CONT.
1	PS2	Pinus strobus	White pine	8' HT.	B&B
2	UA	Ulmus americana	American elm	1" CAL.	CONT.

UNDERSTORY TREES AND SHRUBS

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
13	Aa	Aronia arbutifolia	Red chokeberry	24" HT.	CONT.
11	Ac	Amelanchier canadensis	Serviceberry	36" HT.	CONT.
37	Ca	Clethra alnifolia	Summersweet	36" HT.	CONT.
3	Hv	Hamamelis virginiana	Witchhazel	36" HT.	CONT.
3	Iv	Ilex verticillata	Winterberry	36" HT.	CONT.
29	Lb	Lindera benzoin	Spicebush	36" HT.	CONT.
11	Sa	Swida amomum	Silky dogwood	36" HT.	CONT.
11	Sp	Spiraea alba	Meadowsweet	36" HT.	CONT.
55	Sr	Swida racemosa	Gray dogwood	36" HT.	CONT.
5	Cf	Cornus florida	Flowering dogwood	36" HT.	CONT.
28	St	Spiraea tomentosa	Steeplebush	36" HT.	CONT.

HERBACEOUS

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
80	ac	Asarum canadensis	Canadian wild ginger	SP 5 CONT.	12" SPACING
80	cp	Carex pensylvanica	Pennsylvania sedge	SP 5 CONT.	12" SPACING
80	dp	Dennstaedtia punctilobula	Hay-scented fern	#1 CONT.	12" SPACING
80	dm	Dryopteris marginalis	Marginal woodfern	SP 5 CONT.	12" SPACING
80	ed	Eurybia divaricata	White wood aster	SP 5 CONT.	12" SPACING
80	os	Onoclea sensibilis	Sensitive fern	#1 CONT.	12" SPACING
80	pt	Pteridium aquilinum	Bracken fern	SP 5 CONT.	12" SPACING
80	tc	Tiarella cordifolia	Foamflower	SP 5 CONT.	12" SPACING

BIORETENTION BASIN AND CONVEYANCE SWALE HERBACEOUS

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
225	at	Asclepias tuberosa	Butterfly weed	2.5" PLUG	12" SPACING
225	ep	echinacea purpurea	Purple cone flower	2.5" PLUG	12" SPACING
225	jc	Juncus canadensis	Canada rush	2.5" PLUG	12" SPACING
225	jt	Juncus tenuis	Slender rush	2.5" PLUG	12" SPACING
225	pvc	Panicum virgatum	Switchgrass	2.5" PLUG	12" SPACING
225	rf	Rudbeckia fulgida	Black-eyed Susan	2.5" PLUG	12" SPACING
225	ss	Schizachyrium scoparium	Little bluestem	2.5" PLUG	12" SPACING

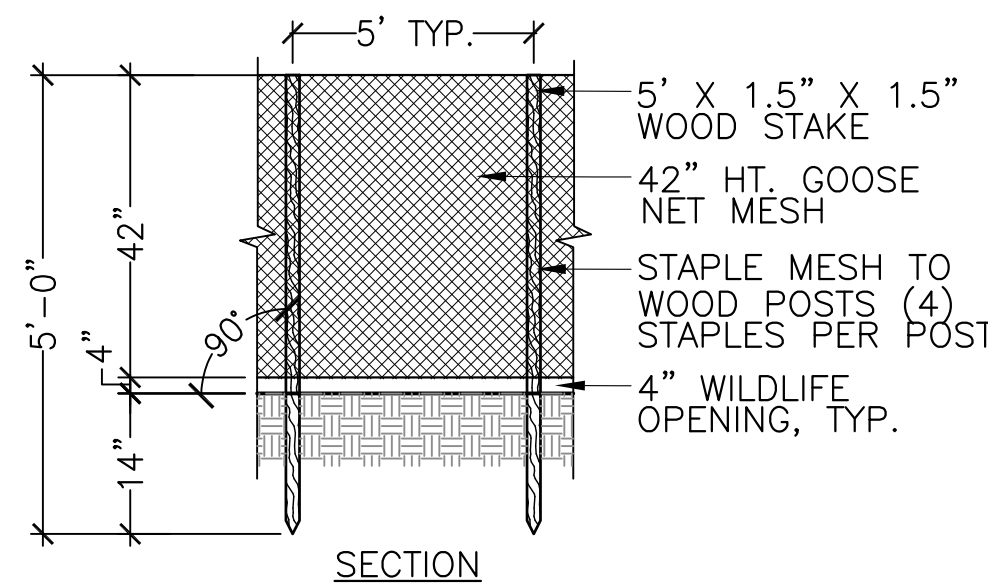
7

PLANT SCHEDULE

SCALE: NTS

NOTES:

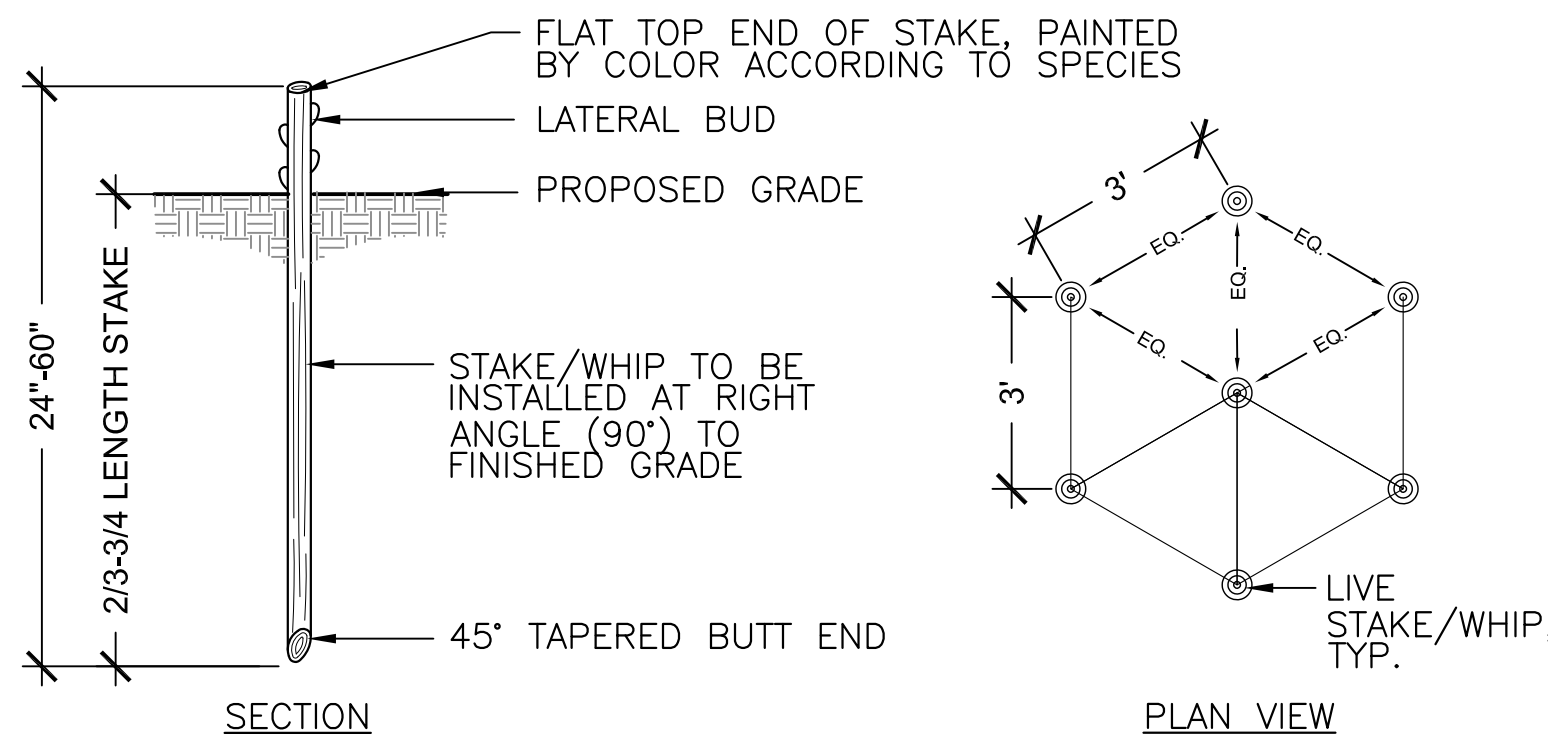
- SEED ESTABLISHMENT FENCE SHALL BE IN PLACE IMMEDIATELY FOLLOWING APPLICATION OF SEED.
- SEED ESTABLISHMENT FENCE SHALL REMAIN IN PLACE UNTIL SEED GERMINATION IS COMPLETE.
- ANY SECTIONS OF SEED ESTABLISHMENT FENCE THAT BECOME DAMAGED SHALL BE REPLACED IMMEDIATELY.



6

SEED ESTABLISHMENT FENCE

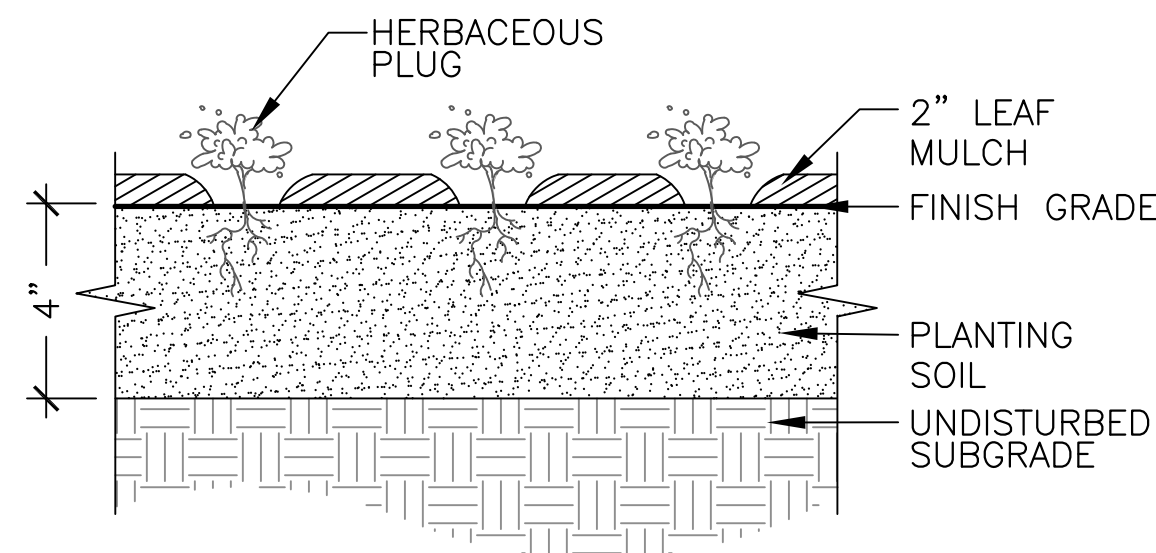
SCALE: NTS



5

LIVE STAKE/WHIP PLANTING (DORMANT)

SCALE: NTS



NOTE:

- PLUGS TO BE LAID OUT IN THE FIELD BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.

4

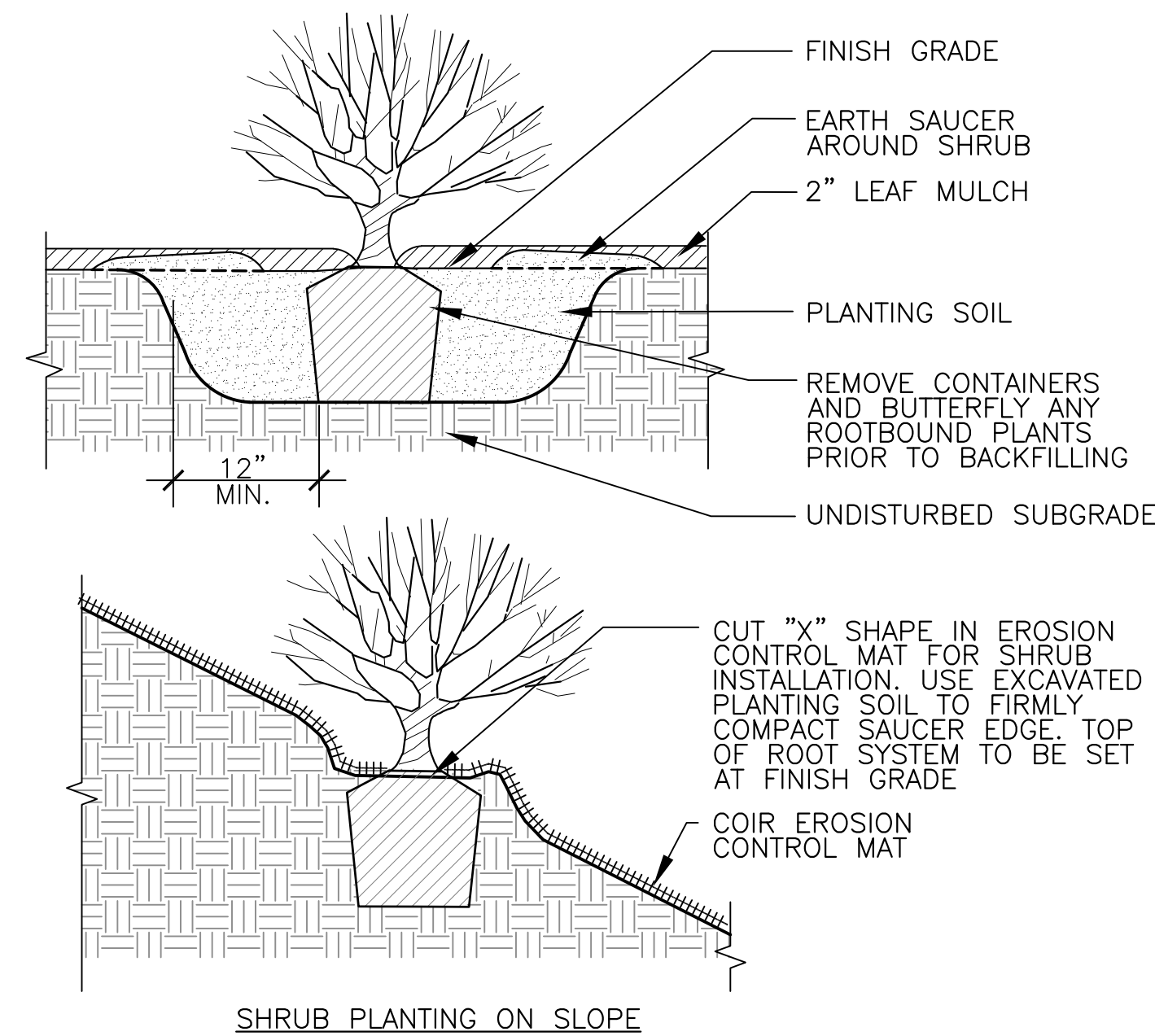
HERBACEOUS PERENNIAL PLANTING

SCALE: NTS

3

SHRUB PLANTING

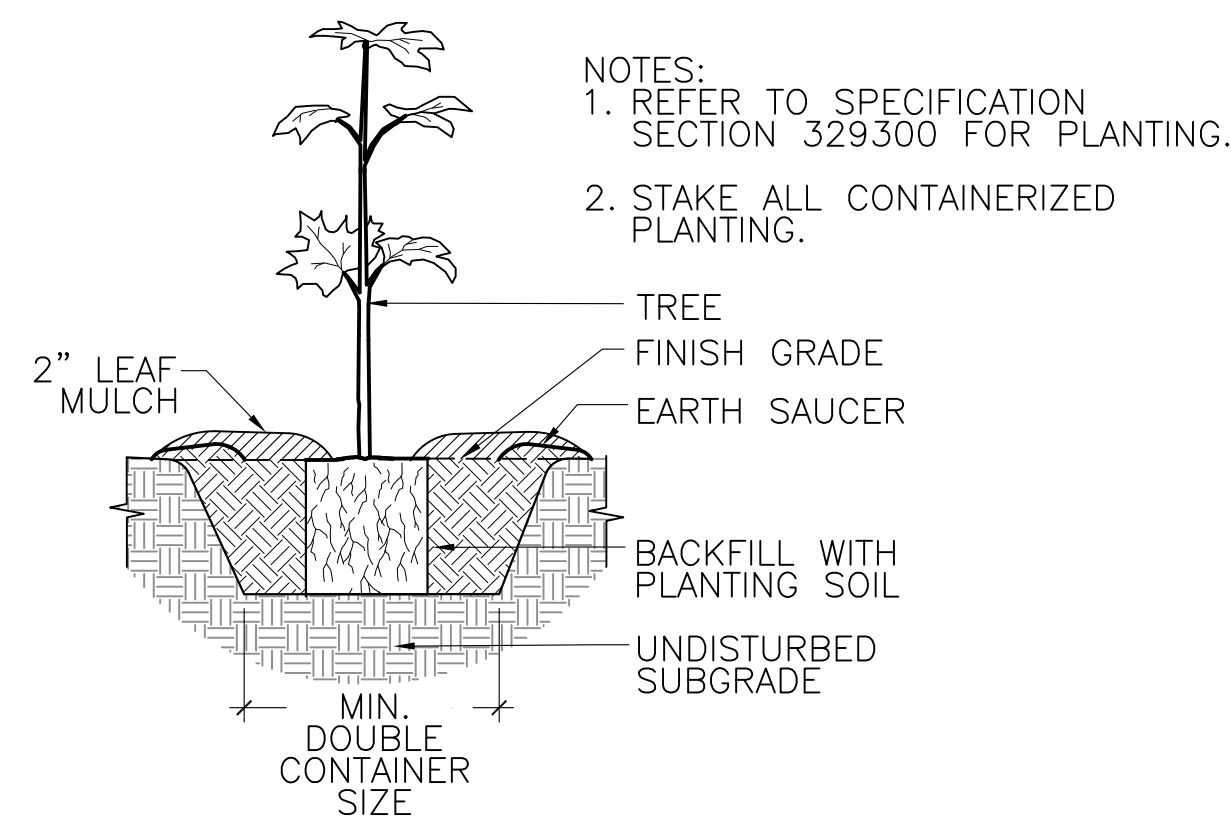
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2

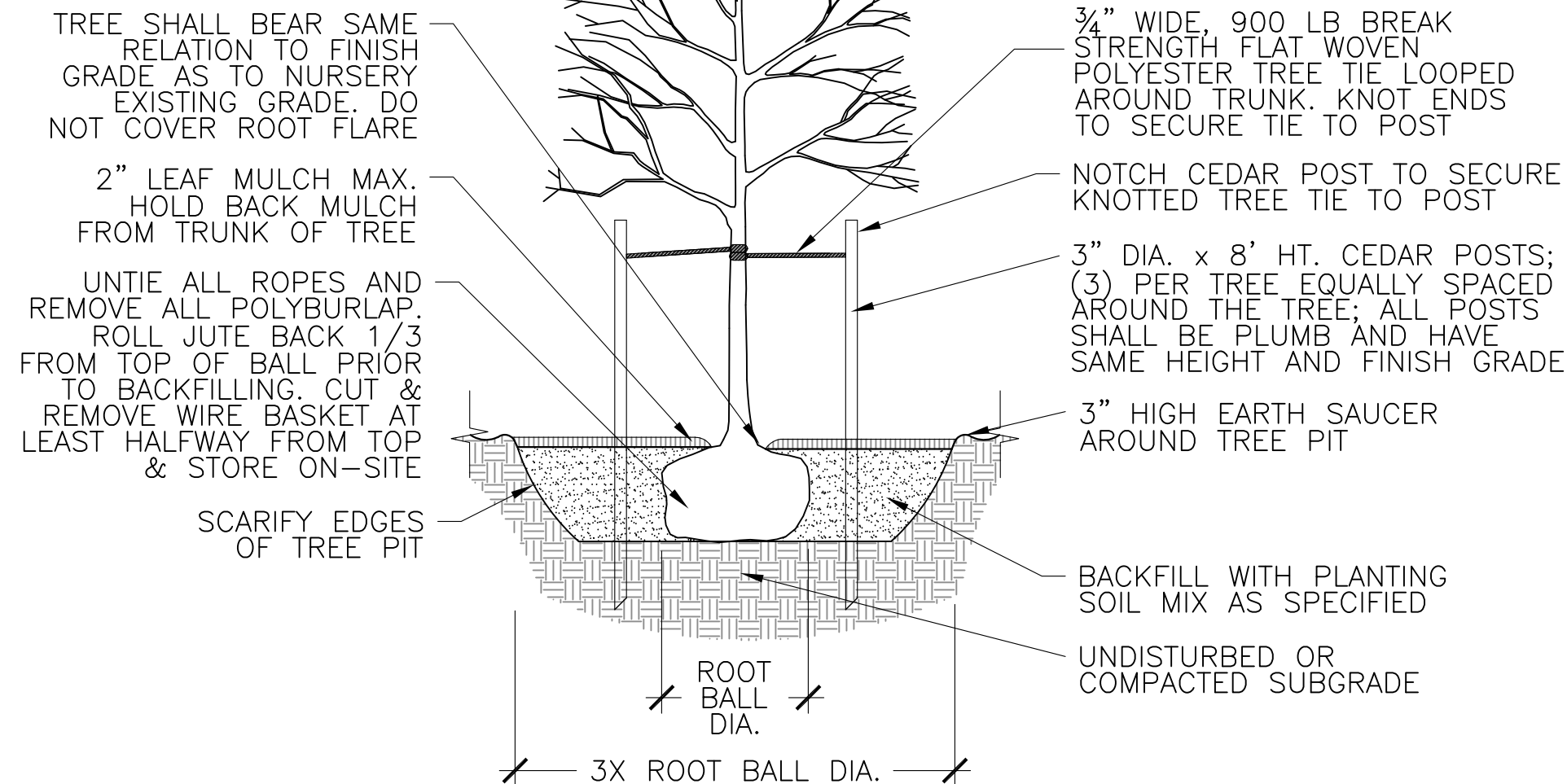
CONTAINERIZED TREE PLANTING

SCALE: NTS



NOTES:

- REFER TO SPECIFICATION SECTION 329300 FOR PLANTING.
- STAKE ALL CONTAINERIZED PLANTING.



NOTES:

- CLEANLY PRUNE ALL DAMAGED BRANCHES.
- TREE SHALL HAVE STRAIGHT TRUNK AND BE PLUMB AFTER SETTLEMENT. CONTRACTOR SHALL ADJUST AS REQUIRED OR AS DIRECTED BY OWNER'S REPRESENTATIVE.

1

B&B TREE PLANTING

SCALE: NTS

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PLANTING DETAILS

Sheet No:

L-7